

AKANE SHIMIZU

03

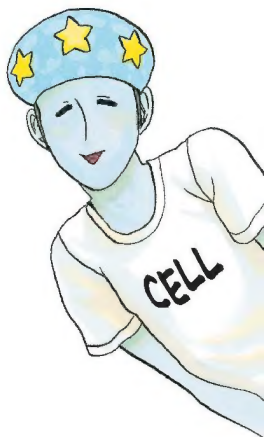


Cells at Work!

はたらく細胞

Cells at Work!

はたらく細胞

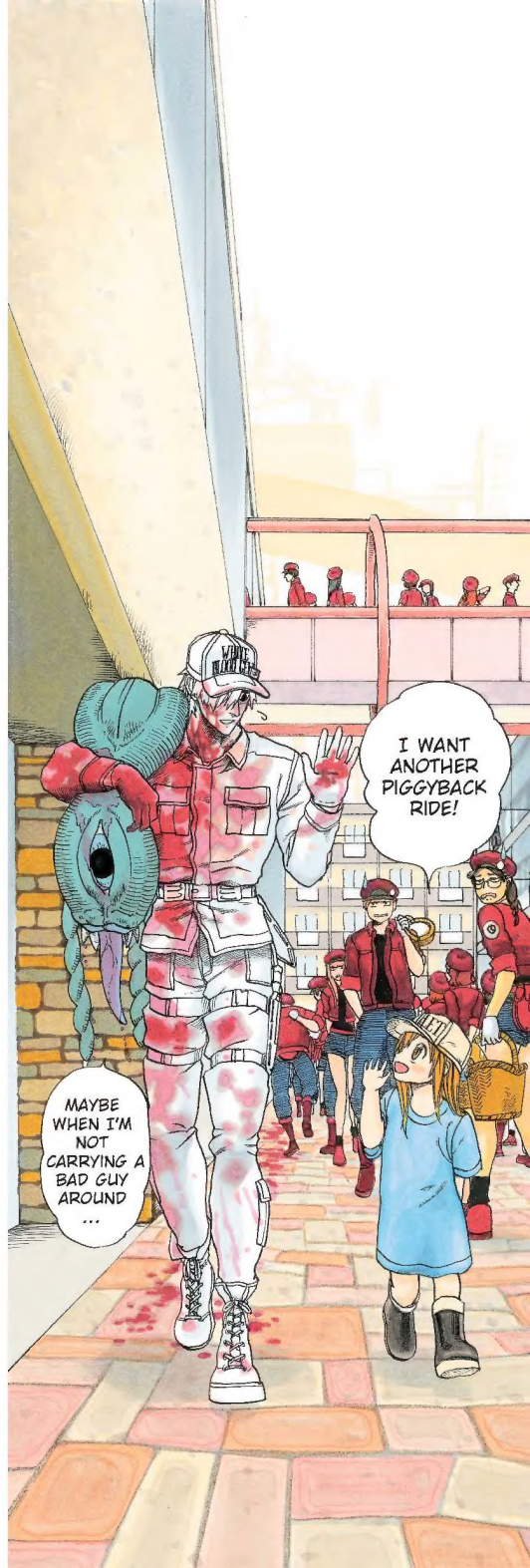


03

AKANE SHIMIZU

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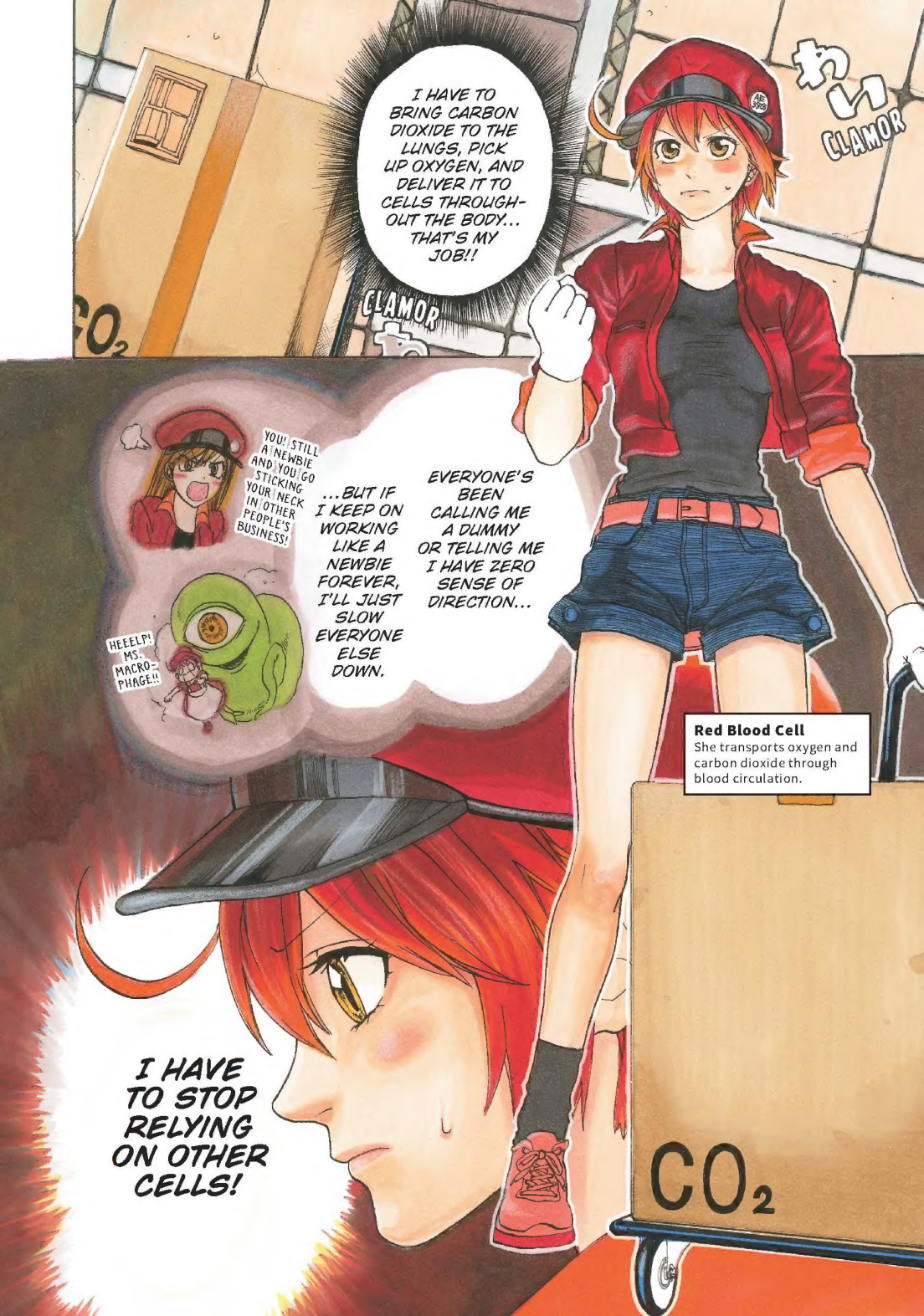
03



Cells at Work!

はたらく細胞

AKANE SHIMIZU



I HAVE TO
BRING CARBON
DIOXIDE TO THE
LUNGS, PICK
UP OXYGEN, AND
DELIVER IT TO
CELLS THROUGH-
OUT THE BODY...
THAT'S MY
JOB!!

わい
CLAMOR

CLAMOR



YOU! STILL
A NEWBIE
AND YOU GO
STICKING
YOUR NECK
IN OTHER
PEOPLE'S
BUSINESS!


...BUT IF
I KEEP ON
WORKING
LIKE A
NEWBIE
FOREVER,
I'LL JUST
SLOW
EVERYONE
ELSE
DOWN.

EVERYONE'S
BEEN
CALLING ME
A DUMMY
OR TELLING ME
I HAVE ZERO
SENSE OF
DIRECTION...



HEEELP!
MS.
MACRO-
PHAGE!!

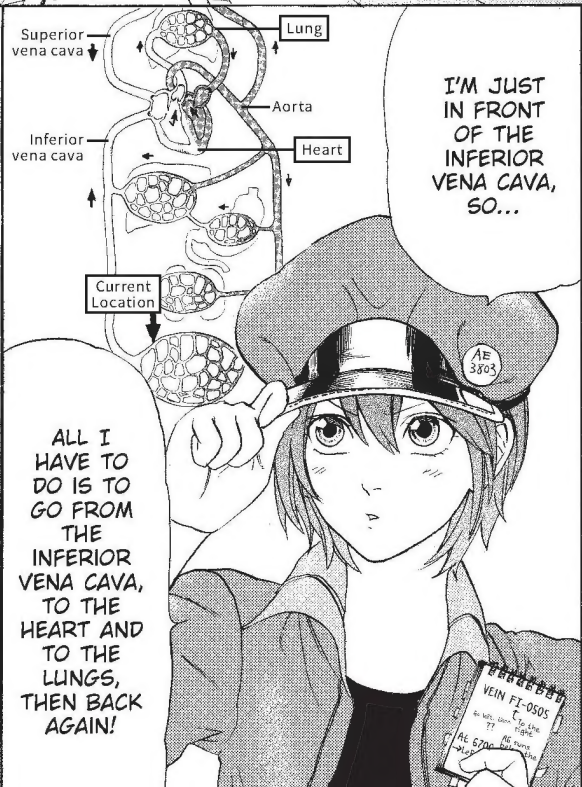
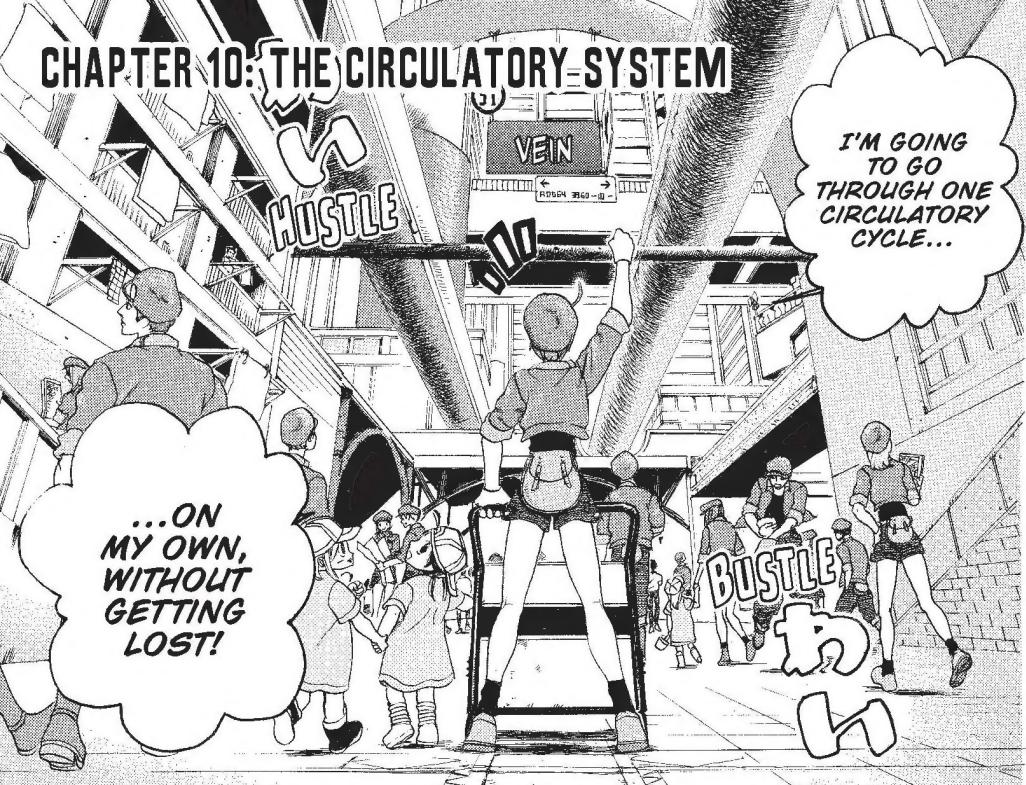
Red Blood Cell
She transports oxygen and
carbon dioxide through
blood circulation.



I HAVE
TO STOP
RELYING
ON OTHER
CELLS!

CO₂

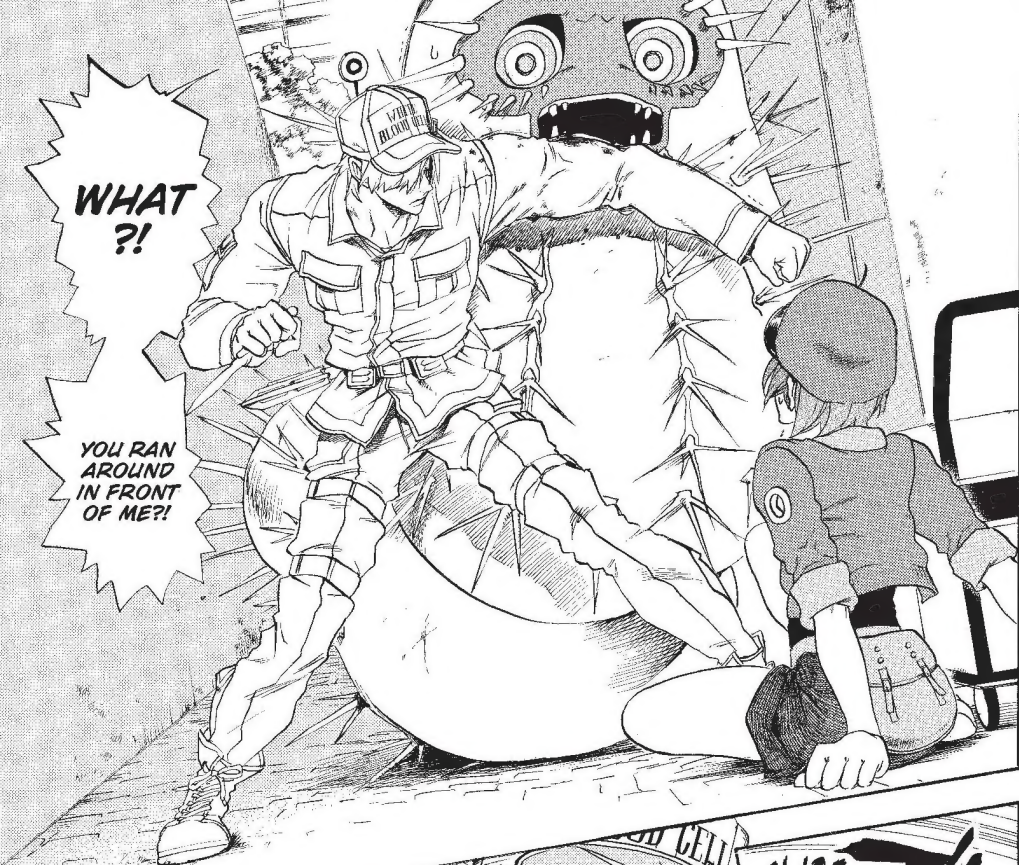
CHAPTER 10: THE CIRCULATORY SYSTEM





**WHAT
?!**

**YOU RAN
AROUND
IN FRONT
OF ME?!**



SLIDE

**DIE,
GERM
!!!**

SLASH

GARGO!





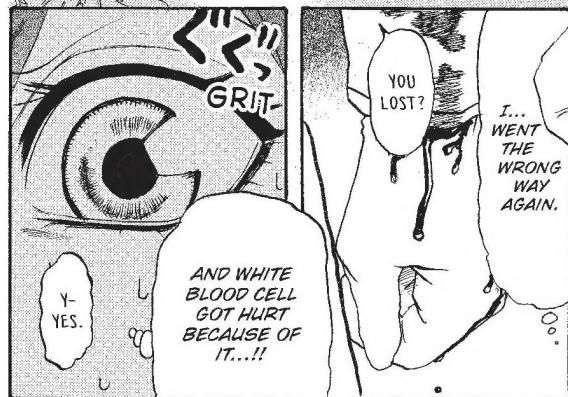
HEY, RED BLOOD CELL. ARE YOU ALL RIGHT?

W-WHITE BLOOD CELL...
THANK YOU SO MUCH.

MM.
NO PROBLEM.

White Blood Cell (Neutrophil)

His main job is to destroy foreign substances that enter the body from the outside, such as bacteria and viruses. Neutrophils make up more than half of the white blood cells in the blood.



YOU LOST?

I... WENT THE WRONG WAY AGAIN.

Y-YES.
AND WHITE BLOOD CELL GOT HURT BECAUSE OF IT...!!



WHAT WERE YOU DOING IN A PLACE LIKE THIS?

THERE'RE ONLY LYMPH DUCTS UP AHEAD.

HUH?!

SHOCK
ガァン



THEN LET ME SHOW YOU THE WAY LIKE BEF—

HUH?!

わい
HUSTLE

HEY,
DON'T
JUMP
OUT LIKE
THAT!

SORRY!
SO
SORRY!

ER CO
E APOLO
INCONVEN

RED BLO
CELL

W-
WELL,
I'LL
BE ON
MY—
EEK!

THANK
YOU.
THANK
YOU.

A-ARE
YOU ALL
RIGHT?!

I-I-I...
I'M FINE.
SO SORRY
FOR THE
TROUBLE.



BUSTLE

THIS IS
NO.1146. I'M
GOING TO
GO PATROL
THE BODY,
OVER.

EASY MAP

FIRST,
THE
INFERIOR
VENA
CAVA!
GOT IT!

Lungs

Heart

Inferior Vena Cava

THE LARGEST VEIN
The largest vein in the human body. Blood from the lower part of the body and other areas flow here and then into the heart (right atrium).

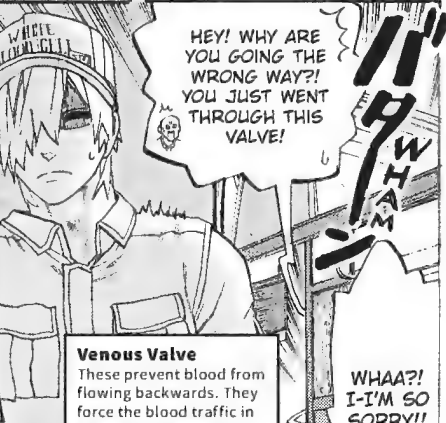
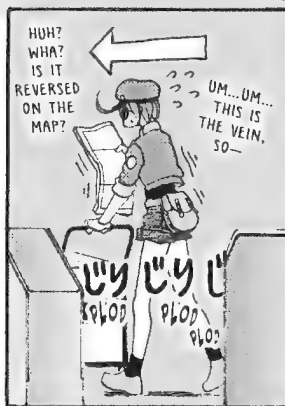
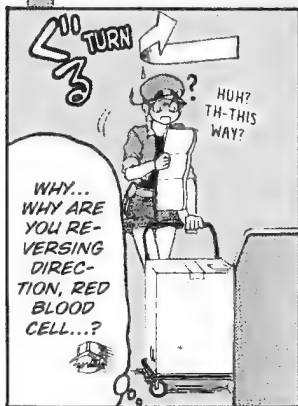
ALL RIGHTY.
I'M GOING TO
WANDER AROUND
NEAR THE
LIVER, THEN.

GOT
A LOT
MORE
WORK
AHEAD
OF US.

REALLY?

SO...
IF I GO
THIS
WAY—

WANNA GET
SOMETHING
SWEET
AROUND
HERE?



Venous Valve

These prevent blood from flowing backwards. They force the blood traffic in the veins to be one-way, heading toward the heart.



はっ! TADAAA! っ

THE HEART

Aorta

Pulmonary Artery

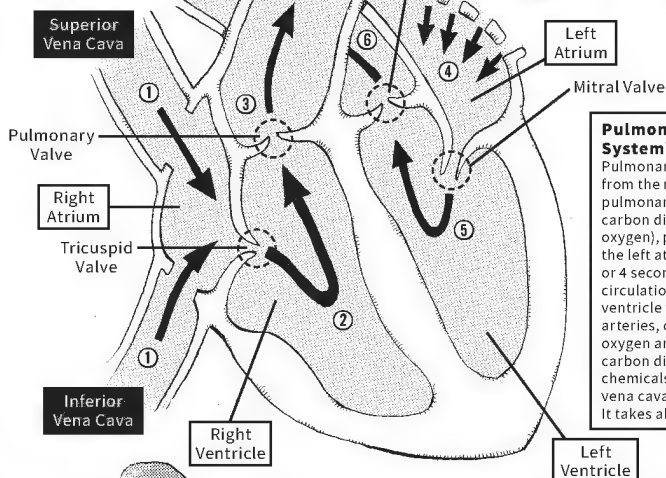
Aortic Valve

Pulmonary Vein

ROUTE

①~⑥

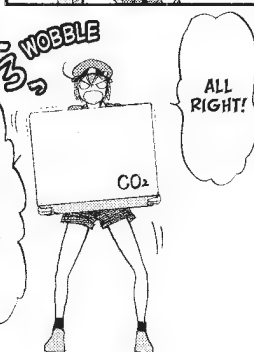
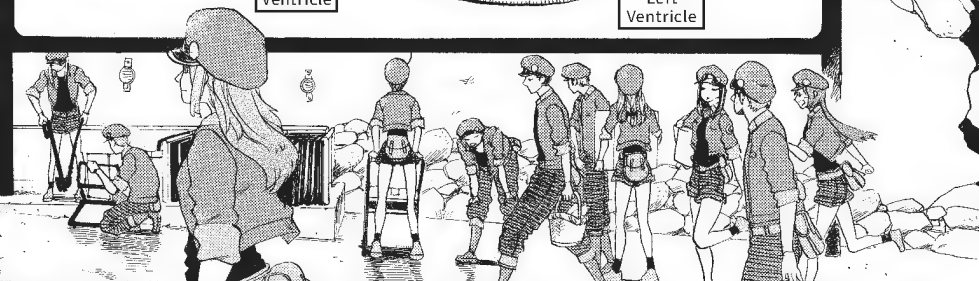
One-way traffic.



Pulmonary Circulation and Systemic Circulation

Pulmonary circulation proceeds from the right ventricle, then to the pulmonary artery, lungs (discarding carbon dioxide and receiving oxygen), pulmonary vein, then to the left atrium. It takes about 3 or 4 seconds per cycle. Systemic circulation proceeds from the left ventricle to the aorta, then to the arteries, capillaries (dropping off oxygen and nutrients, and receiving carbon dioxide and other unneeded chemicals), the veins, the superior vena cava, then to the right atrium. It takes about 20 seconds per cycle.

To reduce crowding, please fold your carts.





WELCOME
TO THE
HEART!



OH NO! I
DROPPED
MY
NOTES!

TRICUSPID
VALVE

THE
TRICUSPID
VALVE WILL
OPEN
SHORTLY.

MY
PRECIOUS
NOTES-!!

STAMPEDE

THIS IS THE RIGHT
ATRIUM. THERE IS
HEAVY FLOW BECAUSE OF
MERGING TRAFFIC
FROM THE INFERIOR AND
SUPERIOR VENA CAVE.
WE THANK YOU FOR YOUR
UNDERSTANDING.

STAMPEDE

Current
location

DAP
DAPPA
DAPPA
DAPPA

HUH?!
WHY?!
WHY'D
THEY COME
FLYING AT
ME?!

WHAT'S
THAT
NEUTRO-
PHIL
DOING?

PLEASE
DO NOT
STOP,
AND MOVE
THROUGH
QUICKLY.

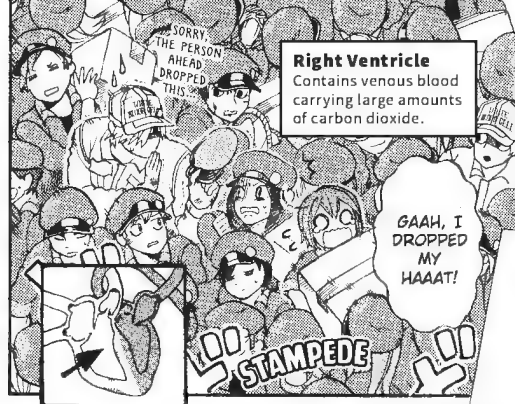
MY
NOTES
!!

EXCUSE
ME, MY
NOTES
...

THUMP
THUMP
THUMP

MY
NOTES
!!

LUNGE
CATCH



Right Ventricle

Contains venous blood carrying large amounts of carbon dioxide.

WELCOME TO THE RIGHT VENTRICLE. WE ARE UNDERGOING CONTRACTION. WE ASK YOU NOT TO LINGER NEAR THE TRICUSPID VALVE.

GAAH, I DROPPED MY HAAAT!

STAMPEDE



Pulmonary Artery

Blood vessels leading to the lungs.

PHEW.

IT'S JUST A SHORT, STRAIGHT ROAD HERE. EASY!

BUSTLE



Lungs

Here, red blood cells discard carbon dioxide and receive oxygen.

オオオオオオ
ROOOOOARRR



SO THAT'S WHAT ALVIOLI LOOK LIKE FROM FAR AWAY.

OKAY, NOW TO EXCHANGE GASES AT THE ALVEOLI...

WHOA!





TIME TO
CLAIM THAT
OXYGEN
FOR US
BACTERIA!

RMBL

HEE
HEE
HEE...



HEH
HEH
HEH.



HEY...
HERE
COMES
A GOOD
ONE.



W
H
I
V
R
R
R



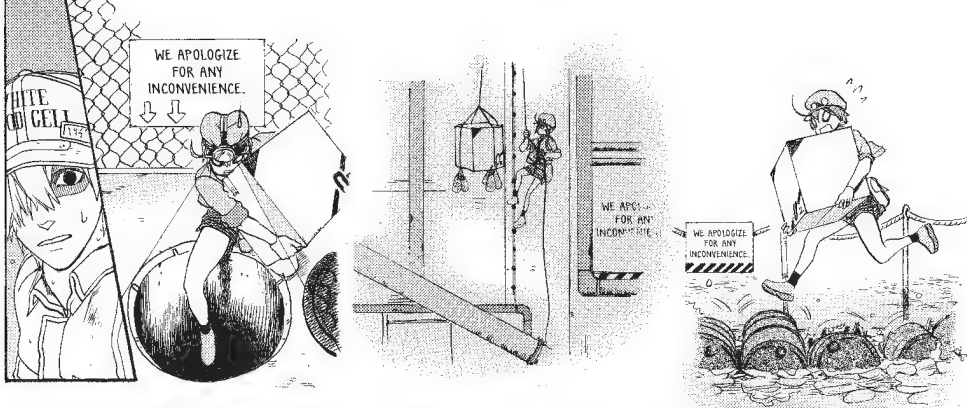
WE'LL
WAIT FOR
IT HERE!

ざん
LOOM

ONCE IT
TURNS THE
CORNER, WE'LL
BEAT IT UP
TOGETHER!!

OUR
TARGET
IS THAT
DOPEY
RED
BLOOD
CELL.







I
CIRCULATED
BLOOD
WITHOUT
GETTING
LOST!

I DID
IT...!
FINALLY,
I—

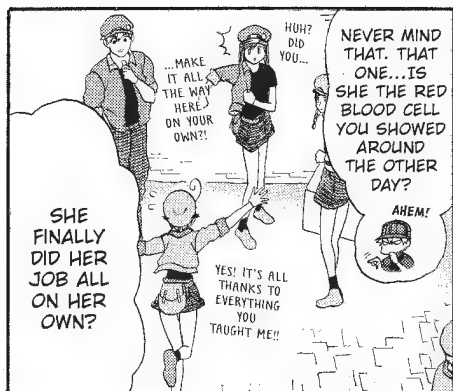


YO!

BLOOD CELL 114-6

YAAAY! YAAAY!

WAH-
HOOOOO!



SHE
FINALLY
DID HER
JOB ALL
ON HER
OWN?

...MAKE
IT ALL
THE WAY
HERE
ON YOUR
OWN?!

HUH?
DID
YOU...

NEVER MIND
THAT. THAT
ONE...IS
SHE THE RED
BLOOD CELL
YOU SHOWED
AROUND
THE OTHER
DAY?

AHEM!

YES! IT'S ALL
THANKS TO
EVERYTHING
YOU
TAUGHT ME!!



HEY!
DON'T
TALK
ABOUT
HER LIKE
THAT.

GRR!

JUST HOW
INCOMPETENT
IS SHE?

RIGHT?!



KILLER T,
WHAT ARE
YOU DOING
HERE...?

WHAT'S
IT TO
YOU?

**Killer T Cells
(Cytotoxic T Cells)**

In the event of a foreign invasion, these cells act as commanders and decide the strategic response. They issue deployment orders for Killer T Cells.



YOU AND
I HAVE
THINGS THAT
WE DON'T DO
TOO WELL.

FOR HER,
"NOT GETTING
LOST" HAPPENS
TO GIVE HER
TROUBLE.

SHE HAD TO
HAVE PEOPLE
SHOW HER
AROUND, AND
SHE MADE
PLENTY OF
MISTAKES, BUT
SHE NEVER
GAVE UP.


TEE
HEE
HEE!

YOU'RE
SUPPOSED
TO BE
ABLE TO
DO IT
ON YOUR
OWN.

AREN'T
YOU THE
GOOD?
TWO
SHOES?
EVERY-
THING I
TAUGHT
YOU?

EVEN SO,
SHE DID HER
BEST TO
OVERCOME
HER WEAK-
NESS.

.....



EVEN AS SHE
DOES HER JOB
EVERY DAY, SHE
STILL WORKS TO
MAKE HERSELF
BETTER.

I NEVER
THOUGHT ABOUT
IT BEFORE,
BUT RED BLOOD
CELLS HAVE A
HARD JOB TO
DO, TOO...

THEY CARRY
AROUND
THOSE HEAVY
LOADS AND
RUN ALL OVER
THE BODY.

SOB!
THANK
YOU SO
MUCH...


PLEASE
DON'T
PINCH...

CONGRATS OR
WHATEVER...



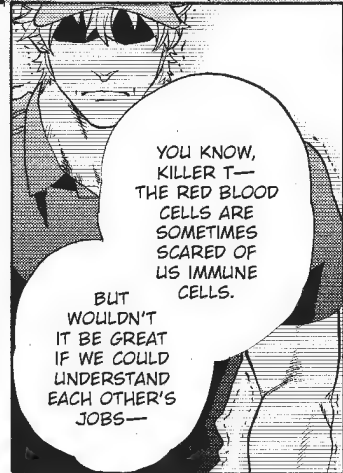
SHE'S
REALLY
SOME-
THING...

WELL, GOOD
FOR YOU.
BABY STEPS!



SO THAT ONE
DAY, WE CAN
ALL LIVE AS
FRIENDS?

DON'T
YOU THINK
SO, TOO?



YOU KNOW,
KILLER T—
THE RED BLOOD
CELLS ARE
SOMETIMES
SCARED OF
US IMMUNE
CELLS.

BUT
WOULDN'T
IT BE GREAT
IF WE COULD
UNDERSTAND
EACH OTHER'S
JOBS—



**YOU
IDIOT
!!!**



HOW MUCH LONGER WERE YOU GONNA BLAB THAT CRAP IF I DIDN'T STOP YOU?!

WH-WHAT ...? HUH ?!



?!

HUH?! HUH ...?!

YOU SPINELESS FOOL! I DON'T WANNA HEAR THAT NAIVE GARBAGE EVER AGAIN!

WE'RE KILL-ERS!!

UH... HUH? SURE.



I- I NEVER WAS THINKING THAT SPECIFI-CA-

DID YOU HEAR WHAT I SAID?!!

UH... YESSIR?

YOU BETTER KEEP THAT KNIFE IN YOUR SOUL SHARPENED SO YOU CAN USE IT ANY TIME!!

SOUL ...?



I REALLY HAVE TO EXPLAIN THIS?!

THAT'S WHAT IMMUNE CELLS DO!!

YOU WANT TO JUMP INTO A GROUP OF NEIGHBOR CELLS PLAYING CARDS AND PULL THE OLD MAID AND HAVE THEM SAY, "HAH HAH!" AND TEASE YOU?

WHERE'S YOUR DAMN PRIDE, HUH?!

LISTEN UP, Y'HEAR?! WE KILL EVEN OUR FELLOW CELLS IF WE NEED TO!!

YOU WANNA BE FRIENDS ?!

YOU WANNA JOIN IN WHEN THE RED BLOOD CELLS SIT DOWN FOR TEA?!



WHOOOSH



AE
3803

I WANT TO
HEAR ALL
ABOUT IT.
ALL ABOUT
THE WORK
YOU GUYS
DO.

AND THEN
I WENT TO THE
LUNGS, AND THE
ALVEOLI WHEN YOU
LOOK AT THEM
FROM THE OUTSIDE,
THEY WERE ALL
LUMPY, AND THEY
HAVE THIS FUNNY
SHAPE!

OH
REALLY?
"LUMPY"?

AND THEN,
AND THEN...

OH, AND I
DROPPED MY
NOTES AT THE
HEART, BUT FOR
SOME REASON
THEY CAME
FLYING AT ME
FROM BEHIND.

UH-
HUH...

THROB
THROB
ズズズ

W-WELL,
YOU SEE...
AFTER I RAN
INTO YOU...

...THE FIRST
PLACE I WENT
WAS THE VENA
CAVA! IT'S HUGE,
BECAUSE THAT'S
WHERE ALL THE
VEINS END UP.

UH-
HUH.

AND THEN
I WENT TO THE
HEART! I WAS
PUSHED AROUND
EVERY WHICH WAY,
IT WAS REALLY
TOUGH! I WAS
SQUISHED!

UH-
HUH.

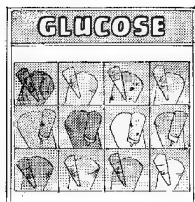
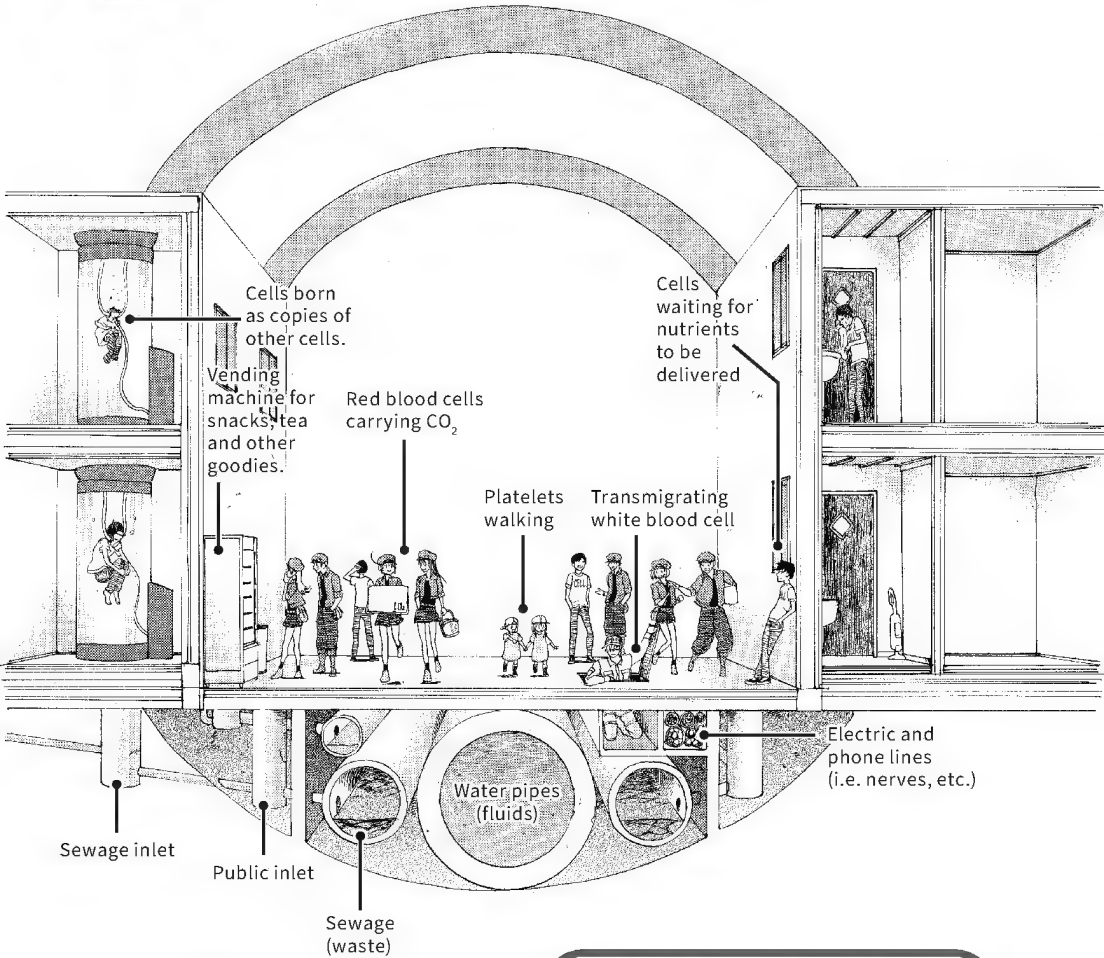
I'M NOT
JEAL-
OUS...
AT
ALL!!

CHAPTER 10: END



Cells at Work!

Inside a Blood Vessel [cross section]



Red blood cells like sugars

Unlike white blood cells
and other cells, red blood
cells lack mitochondria.

Because of this, they can only
utilize glucose for energy.

Cells at
Work!
はたらく細胞

**Killer T Cells
(Cytotoxic T Cells)**

Deployed on the order of a Helper T Cell. Professional killers who recognize and destroy foreign substances such as transplanted cells, virus-infected cells, and cancer cells.

Cold

Also called the common cold, a term used to describe the inflammation of respiratory organs (acute upper respiratory inflammation) and related symptoms caused by the cold virus. The inflammation causes symptoms such as sneezing, runny or stuffy nose, achy throat, phlegm, and fever.

**LISTEN UP!!
IT'S COLD
SEASON!!**

**SIR,
YES
SIR!**

**UGH,
NOT
AGAIN.**

**AND THIS
AREA, NEAR
THE PHARYNX,
IS ESPECIALLY
VULNERABLE
TO ATTACKS
FROM
VIRUSES!**

**IF YOU SEE
AN INFECTED
CELL, AS
SOON AS THE
ORDER IS
GIVEN, YOU
ARE TO KILL
IT—WITHOUT
FAIL!!**

**DO THEY
HAVE TO BE
SO LOUD
EVERY DAY?**

**SIR,
YES
SIR!**





THEN I ROOM WITH HIM AND TEACH HIM STUFF UNTIL HE'S READY TO GO OFF ON HIS OWN. AND THE SAME THING OVER AND OVER, FOREVER...?!

SORTING MY STUFF AND THE COPY'S STUFF, THEN TYING THEM UP SEPARATELY...

WE JUST MAKE BORING COPIES OF OURSELVES, DAY AFTER DAY.

GLUB
コ
ポ

GLUB
コ
ポ

Cell Division

A process by which a single cell divides into two or more cells. A cell copies its own DNA during *interphase*, and then divides during *mitosis*. The duration between cell divisions marks a single *cell cycle*. The number of times a cell can divide in its lifetime depends on its type.



ISN'T THERE ANYTHING COOL GOING ON...?

MAN, EVERYTHING IS SUCH A DRAG.



KEH KEH KEH...!!

KEH KEH KEH KEH...!

HM?



G'MERE

コイ

G'MERE

コイ

KEH
KEH
KEH!

CELL

SNEAK

コイ

HEY...
WHAT'RE
YOU
DOING?

KEH
KEH!

"CELL"?

KEH!
KEH
KEH
KEH!

HE'S
WEAR-
ING A
STYLISH
HAT...

COME!
COME!

AND HE
LOOKS A
LITTLE
SICKLY.

NOW GO
WASH YOUR
HANDS AND
GARGLE,
MAGGOTS!

ALL
RIGHT!
THAT'S
ENOUGH
TRAINING
FOR
TODAY!!

SNEAK

コイ

SIR,
YES
SIR!

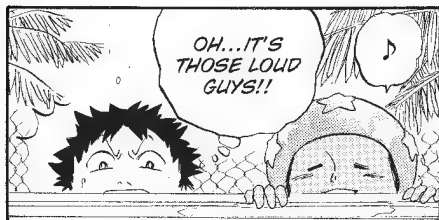


WE FOUND THIS DELIVERED...



SQUAD LEADER!!
TAKE A
LOOK AT
THIS!

HUH?



OH...IT'S
THOSE LOUD
GUYS!!



"THANK
YOU FOR
YOUR
HARD
WORK," IT
SAYS...

Thank you
for your
hard work ☆

A
PRESENT
...?



I-I CAN'T
EXPOSE
YOU GUYS TO
DANGER...!!
I'LL OPEN IT!

N-NO,
IDIOT!
GIVE IT
HERE!!

S-
SQUAD
LEAD-
ER!

PLEASE
BE CARE-
FUL!



WHAT...? A
PRESENT?!

IT COULD
CONTAIN
HAZAR-
DOUS
MATERIAL,
SIR.

WE'LL
OPEN IT
OVER
HERE...





BUT
AS SOON
AS WE
GET THE
ORDER TO
DEPLOY,
YOU'RE
DEAD
MEAT!!

YOU
MIGHT
BE
FAST...!



GUH...
DAMN
IT.



KEH
KEHH
!!

HA! DID
YOU MAKE
THAT THING
YOURSELF?
JUST
FOR THAT
PRANK?

HAHAH...
HAHAH...
THAT
WAS
CLOSE.

IS THAT
SERIOUS-
LY ALL
YOU CAN
SAY...?

"KEH
KEH"...



TSK
...!

JUST
YOU
WAIT!!



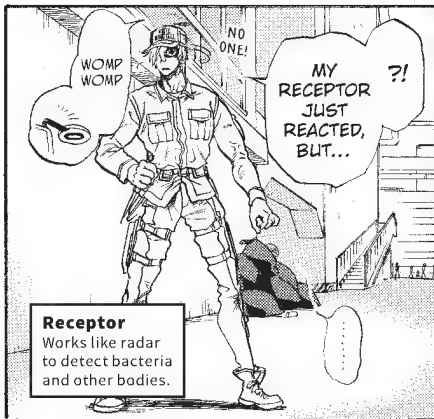
YOU'RE
FUN,
MAN!!!!

KEH
KEH
KEH!

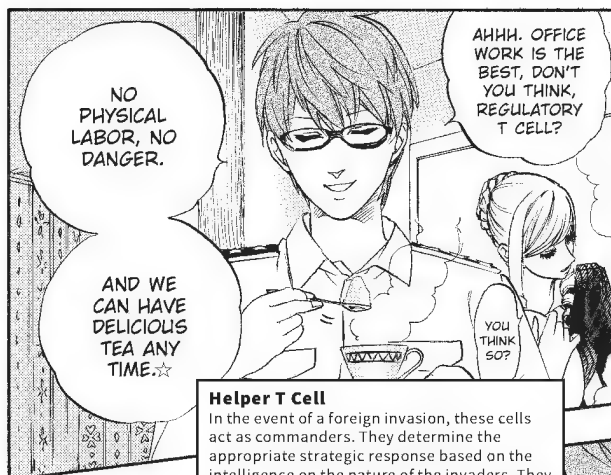
ALL
RIGHT.
LET'S
HAVE
SOME
MORE
FUN!!

HUH?
WE'RE
NOT
DONE?

KEH
KEHH!







Helper T Cell

In the event of a foreign invasion, these cells act as commanders. They determine the appropriate strategic response based on the intelligence on the nature of the invaders. They issue deployment orders for Killer T Cells.



Regulatory T Cell

Controls the activity of T cells to prevent them from triggering anomalous immune responses.



I HATE HOW
THOSE IMMUNE
CELLS ARE SO FULL
OF THEMSELVES,
AND VIOLENT, TOO!
PICKING ON
THEM WAS SO
MUCH FUN!

HA
HA
HA!

BUT I
SHOULD
GET BACK
TO WORK
SOON.

AH HA HA!
BOY, THAT
WAS FUN!!

KEH
KEH
KEH!

BY THE WAY,
HOW DID YOU
COME UP WITH
ALL THOSE
PRANKS?

WHY
NOT? SIT
DOWN FOR
A CUP OF
TEA WITH
ME.

IT'S LIKE
YOU AREN'T
SCARED OF
ANYTHING.
AREN'T YOU
AFRAID OF
GETTING IN
TROUBLE?

HUH?
YOU
WANNA
COME
OVER?

KEH
KEHH!

ZOOM

SO I
DON'T HAVE
ANY FRIENDS...
AND I HAVE
NO IDEA WHAT
KIND OF CELL
ANYONE IS.

WE
SHOULD HANG
OUT MORE, IF
YOU'RE OKAY
WITH THAT.

I
ONLY JUST
STARTED
LIVING ON
MY OWN.

CLUB
コホ

CLUB
コホ

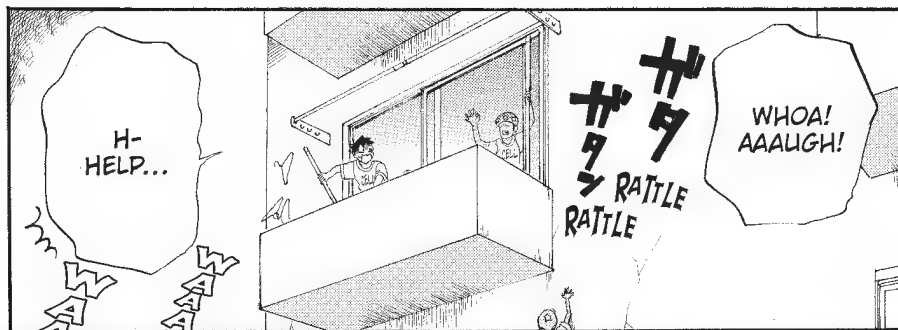




AAAAAAAAAAAA



AAAAUGH!





HE WAS
JUST
TRYING TO
USE ME...

JUST WHEN
I THOUGHT
I'D FINALLY
MADE A
FRIEND...

A
VIRUS-
IN-
FECTED
CELL!

KEH
KEH!

S-
STOP
IT!

YOU GOT
ME GOOD
EARLIER.

GRIP C!

OH—

PLEASE
STOP!

CELL



KILL

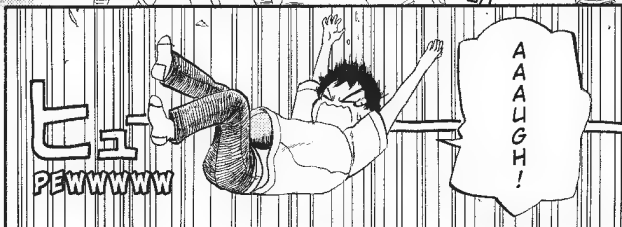
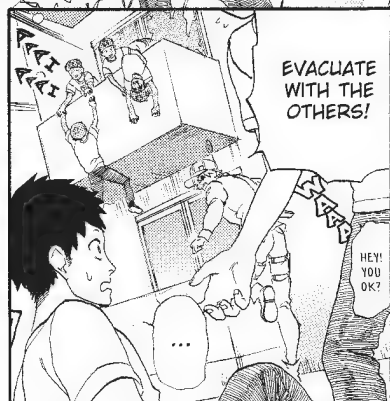
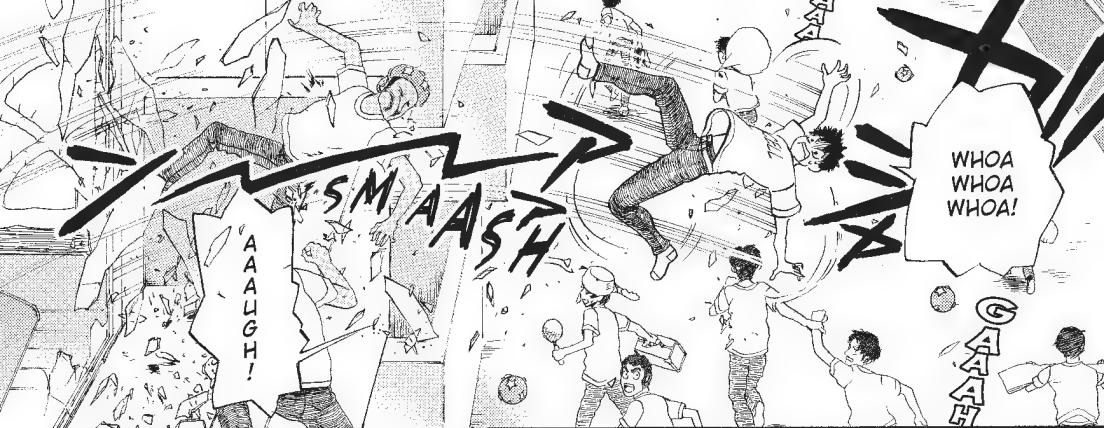
IT'S
PAY-
BACK
TIME,
YOU
CREEP
!!!



WHACK

WHAM

AAAAH!





KAL
BOOM

DIE, YOU
INFECTED
BASTARDS
!!!

!!!!!!

WOMP
WOMP
WOMP

WE'RE DONE
ALREADY.

BAM

BLOOD GUT

1143

ANTIGEN
SIGHT—



Rhinovirus

A representative carrier of the common cold. In most cases, causes light respiratory symptoms (runny or stuffy nose, sneezing). The saliva and mucus of an infected person contain large numbers of rhinoviruses, and are highly infectious.

THE VIRUS WAS IDENTIFIED AS A RHINOVIRUS, A CARRIER OF THE COMMON COLD.

IF YOU'D
BEEN
INFECTED,
WE'D HAVE
KILLED
YOU
WITH THE
REST!!
YOU
LUCKED
OUT!!
PEH!!!

MAN!
YOU SURE
CAUSED US
A WHOLE
TON OF
TROUBLE!!
MORON!!

CELL

IF YOU'D
BEEN
INFECTED,
WE'D HAVE
KILLED
YOU
WITH THE
REST!!
YOU
LUCKED
OUT!!
PEH!!!

MAN!
YOU SURE
CAUSED US
A WHOLE
TON OF
TROUBLE!!
MORON!!

CELL

YOU SHOULD LEARN MORE ABOUT VIRUSES AND CELLS.

AND DON'T PLAY PRANKS ON OTHERS!

YOU SHOULD LEARN MORE ABOUT VIRUSES AND CELLS.

AND DON'T PLAY PRANKS ON OTHERS!

I'M SORRY ...

Y-YES, SIR.

GLOOM しゅん

I'M SORRY ...

Y-YES, SIR.

GLOOM しゅん

...YOU
FUNNY
GUY WITH
THE COOL
HAT...

AND
GOOD-
BYE...

A FEW
DAYS
LATER

...YOU
FUNNY
GUY WITH
THE COOL
HAT...

AND
GOOD-
BYE...

A FEW
DAYS
LATER

...YOU
FUNNY
GUY WITH
THE COOL
HAT...

AND
GOOD-
BYE...

A FEW
DAYS
LATER

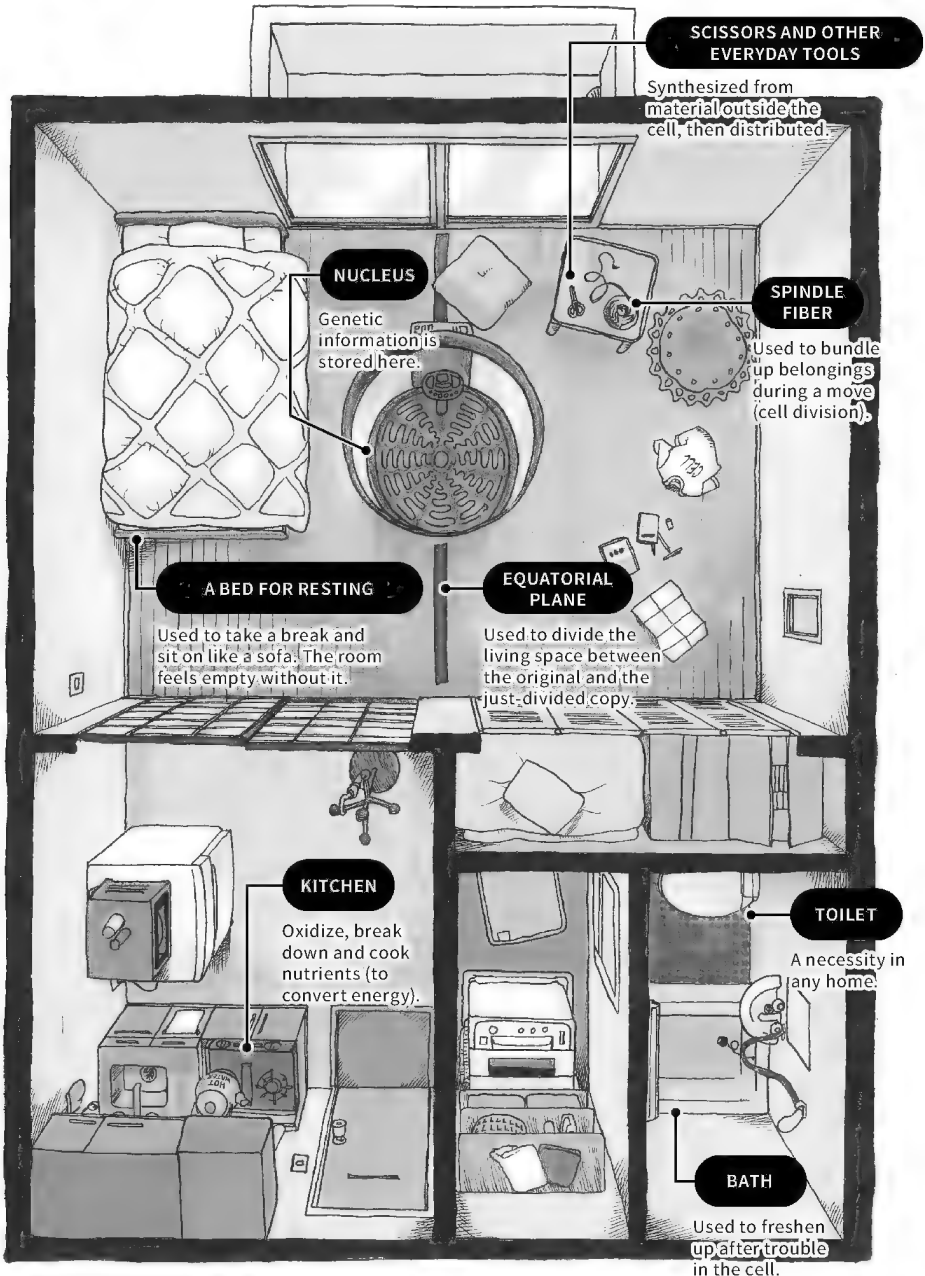
ぎゅ SQUEEZE

ぎゅ SQUEEZE





The Apartment of an Ordinary Cell [floor plan]



Cells at
Work!
はたらく細胞



T CELLS,
THEY ARE
MIGHTY
BOLD!

I DON'T
KNOW BUT
I'VE BEEN
TOLD!



T CELLS
LIKE TO
KILL
GERMS
DEAD!

I DON'T
KNOW
BUT IT'S
BEEN
SAID!

THUMP

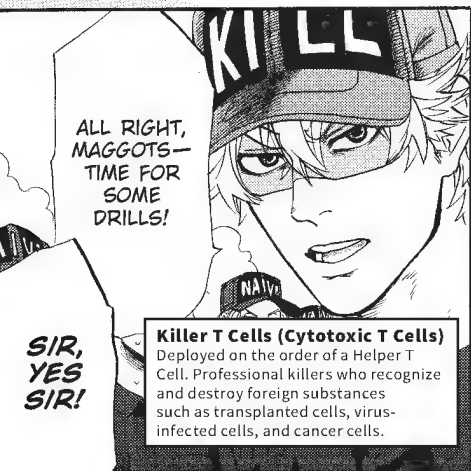
THUMP

THUMP

THUMP

CHAPTER 12: THYMOCYTES

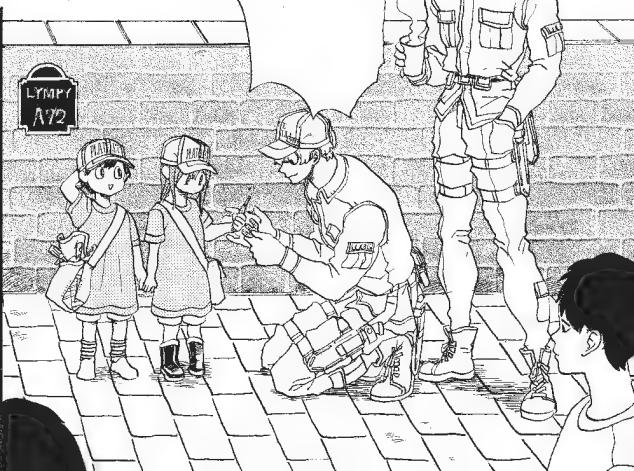
HEY,
PICK IT
UP, YOU
FEET-
DRAGGING
MAGGOTS!



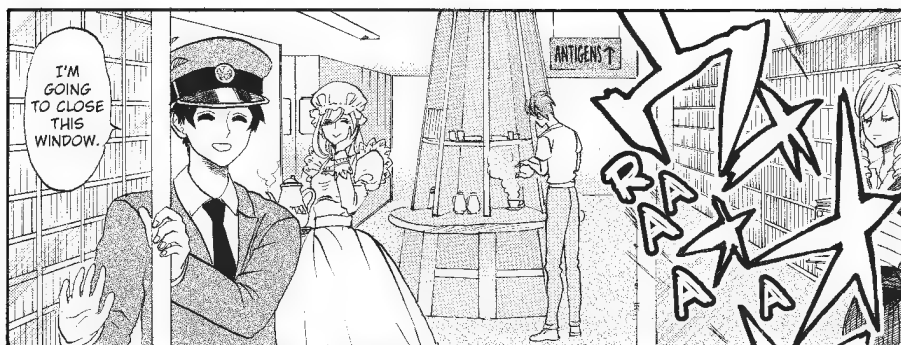
ALL RIGHT,
MAGGOTS—
TIME FOR
SOME
DRILLS!

SIR,
YES
SIR!

Killer T Cells (Cytotoxic T Cells)
Deployed on the order of a Helper T Cell. Professional killers who recognize and destroy foreign substances such as transplanted cells, virus-infected cells, and cancer cells.







I'M GOING TO CLOSE THIS WINDOW.

ANTIGENS ↑

RAA
AAA



IT SPOILS OUR PRECIOUS TEA BREAK— DON'T YOU AGREE, REGULATORY T CELL? ☆



BUT WE'RE NOT ON TEA BREAK RIGHT NOW— OH LOOK.

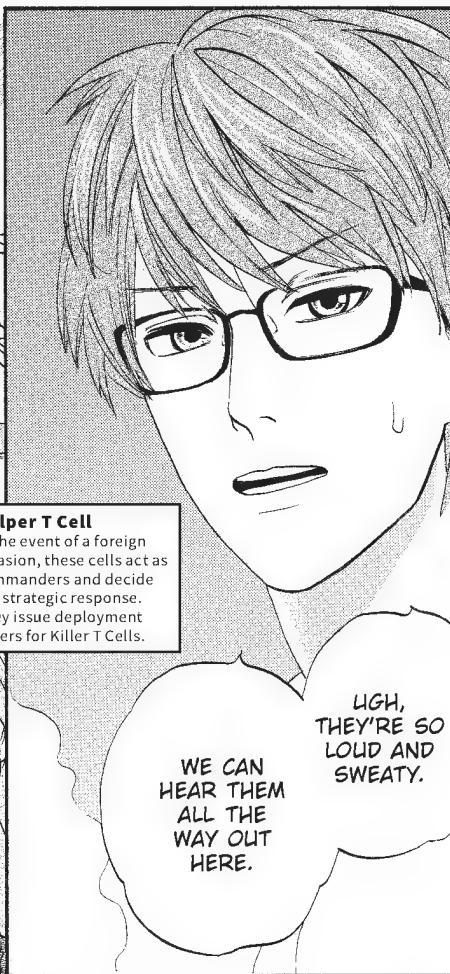
IF YOU SAY SO, SIR.

Helper T Cell

In the event of a foreign invasion, these cells act as commanders and decide the strategic response. They issue deployment orders for Killer T Cells.

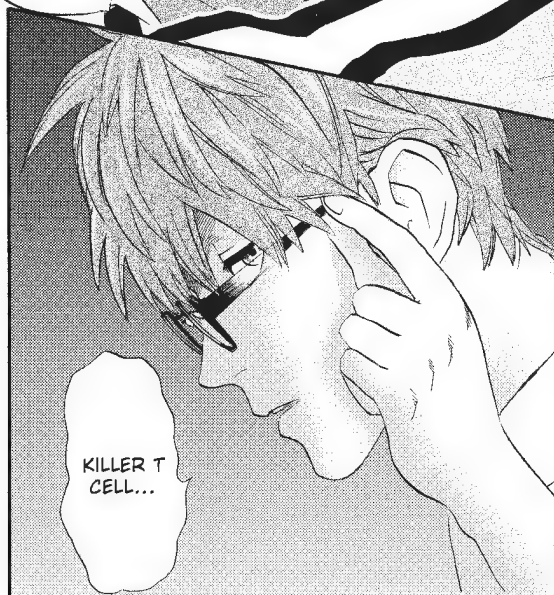
Regulatory T Cell

Controls the activity of T cells to prevent them from triggering anomalous immune responses.



UGH, THEY'RE SO LOUD AND SWEATY.

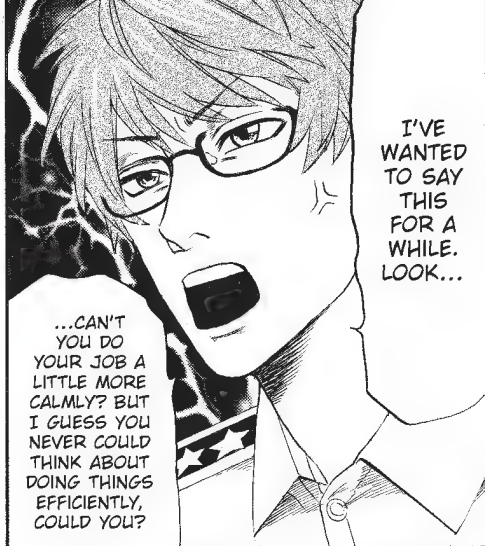
WE CAN HEAR THEM ALL THE WAY OUT HERE.





YOU'RE THE ONE WHO'LL BE IN TROUBLE IF WE'VE ONLY GOT WIMPS FOR FIGHTERS... WOULDN'T YOU AGREE?

JUST DOIN' MY JOB, SIR. I HAVE TO TRAIN THEM SO THAT WE'RE READY WHEN YOU GIVE US THE ORDER.



I'VE WANTED TO SAY THIS FOR A WHILE. LOOK...

...CAN'T YOU DO YOUR JOB A LITTLE MORE CALMLY? BUT I GUESS YOU NEVER COULD THINK ABOUT DOING THINGS EFFICIENTLY, COULD YOU?



THE MOST IMPORTANT PART OF TRAINING IS TO BUILD THEIR SPIRIT. YOU CAN'T TEACH GLITS FROM A MANUAL!!

YOU ALWAYS WERE CLUMSY.

DON'T THROW YOUR TRAINEES MY WAY.

I'M JUST ASKING YOU TO THINK ABOUT YOUR APPROACH!

WHAT'RE YOU TALKING ABOUT?

YOU OUGHT TO REST.



HUH-?!

HA HA. YOU WANT TO KNOW?

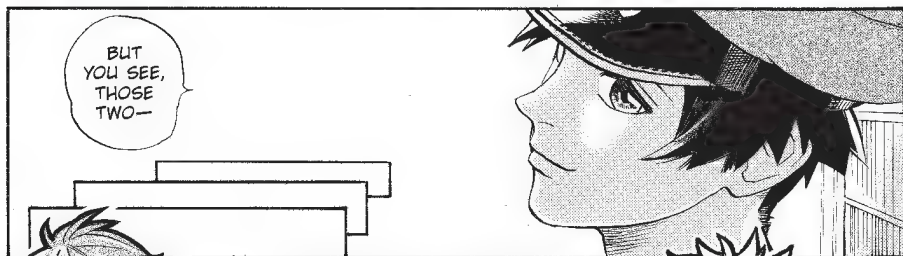
WHAT'S THE DEAL BETWEEN THE TWO OF THEM? THEY'RE NOT BOSS AND SUBORDINATE?

WH-WHAT'S GOING ON?

Dendritic Cells

These cells take fragments of bacterial cells and virus-infected cells, presenting them as antigens for other cells in the immune system. They're also involved in the development of T cells.





...IS WHERE
WE FIND OUT
WHICH OF
YOU WE CAN
USE, AND
WHICH ONES
WE CAN'T!

WELCOME
TO HELL,
YOU
USELESS
RUNTS!!

LISTEN
UP! THE
THYMUS...

Thymocytes
Precursors of T cells.

ALONG
THIS
COURSE,
CUTOUTS
OF CELLS
WILL POP
UP!

Antigen Cutouts

ATTACK THE
ONES YOU
THINK ARE
ANTIGENS!

Ordinary Cell Cutouts

ANYONE
WHO ATTACKS
ORDINARY CELLS
AND ANYONE WHO
DOESN'T ATTACK A
SINGLE ANTIGEN
WILL BE FAILED
ON THE SPOT!!

WE DON'T
NEED
BLOCKHEADS
THAT CAN'T
DO THEIR
PART WHEN
THE TIME
COMES!

Thymic Epithelial Cells

Cells that make up the
thymus. They nurse
lymphocytes and help the
differentiation of T cells.

THIS WILL
DETERMINE
IF YOU CAN
RESPOND TO
ANTIGENS
OR NOT!!

YOU'LL
START BY
TAKING A
TEST!!



HAAH!
HAAH!

NOW
SHOW
ME WHAT
YOU'VE
GOT!!

ONLY
2 OR 3
PERCENT
OF YOU
WILL
MAKE THE
CUT!!

GUH...



HUH?
IS THAT
...?

HEAP

NGH
?!

RUSTLE
ハサッ

COULD
THAT BE
AN
ANTIGEN
CUTOUT?!

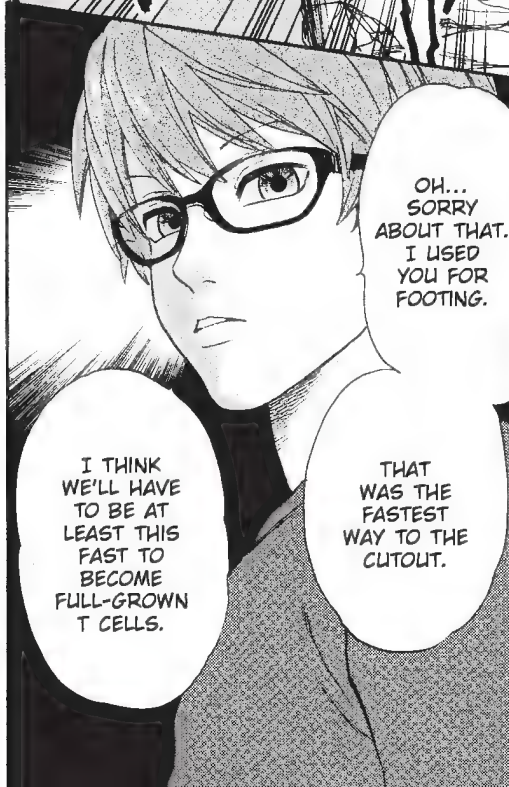
ALL
RIGHT!



WAAAAAY!!

SMASH

WASH



OH...
SORRY
ABOUT THAT.
I USED
YOU FOR
FOOTING.

I THINK
WE'LL HAVE
TO BE AT
LEAST THIS
FAST TO
BECOME
FULL-GROWN
T CELLS.

THAT
WAS THE
FASTEST
WAY TO THE
CUTOUT.



ALL
RIGHT,
GOOD
JOB!!

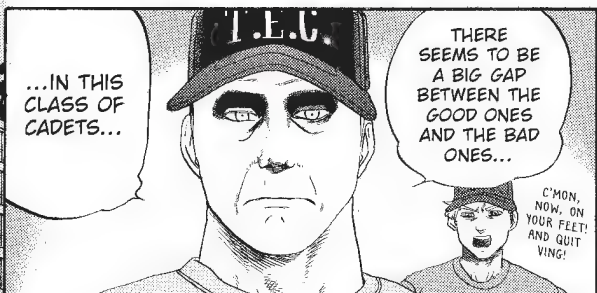
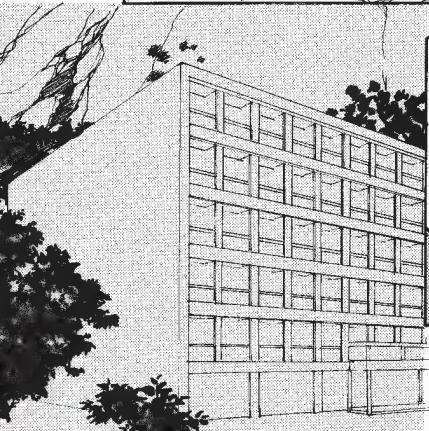
HE
BROKE THE
CUTOUT
IN HALF.

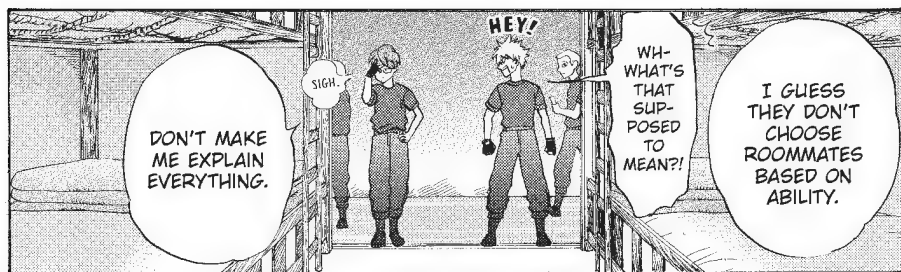
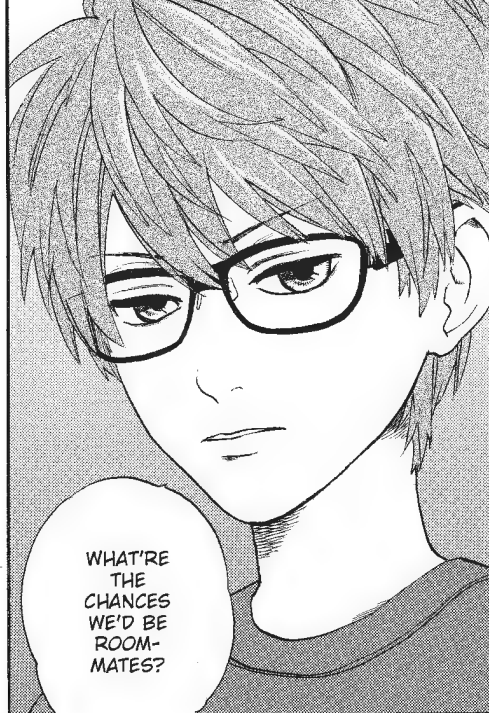
W-WHOA,
WHO
IS THAT
GUY?



AND YOU
STEPPED ON
MY
HEAD...

H-HEY!
I SAW
IT
FIRST!!







JUST
PASSING
BY.

NOTH-
ING.



YOU TWO
SEEM TO
HAVE A LOT
OF TIME
ON YOUR
HANDS.

WHAT
DO YOU
WANT?



OH,
BY
THE
WAY...

OH,
OKAY
THEN.

NO WAY!
ARE YOU
KIDDING?!

I WAS
WONDERING
IF YOU GUYS
WANTED
TO GET IN
TROUBLE AND
FLUNK.



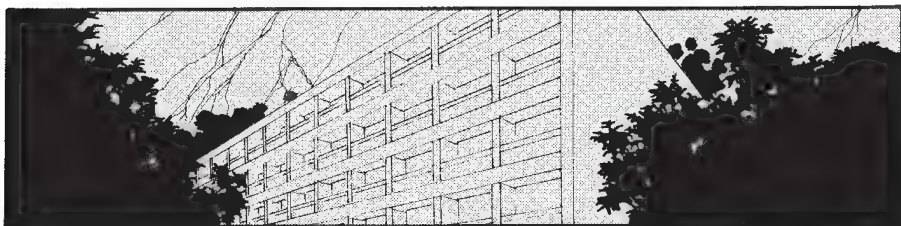
...THE
CADETS WHO
USED THE
BED ACROSS
FROM YOURS
FLUNKED OUT
IN TODAY'S
TEST.

I'M GONNA
MAKE SURE
THAT
DOESN'T
HAPPEN
TO ME.

SEE
YOU

...









**IMMUNITY
SUPER
DISSOLVING
FIST!!**



HAAH!
GASP!

HAAH!



**YAAAAAH!
KILLER T
PUNCH,
42
STRIKES!**



—AND WHAT
"SECRET
TECHNIQUE"?

IDIOT.

**IN VIVO
ULTIMATE
SECRET
ANTIGEN
SUPER
PUNNELING
SMASH-
ING TO-
PIECES
FIST!**

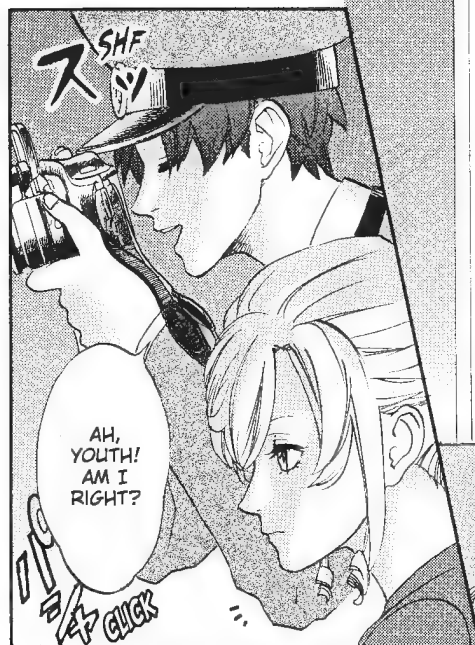
HE MUST
BE ON THE
VERGE OF
COLLAPSE
AFTER
TODAY'S
TRAINING.



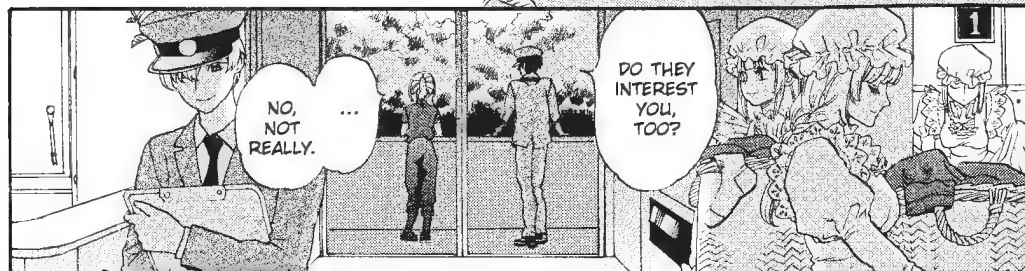
YAH!

HAH!

WHATEVER...
NOTHING TO
DO WITH ME.



Y A A H !



...

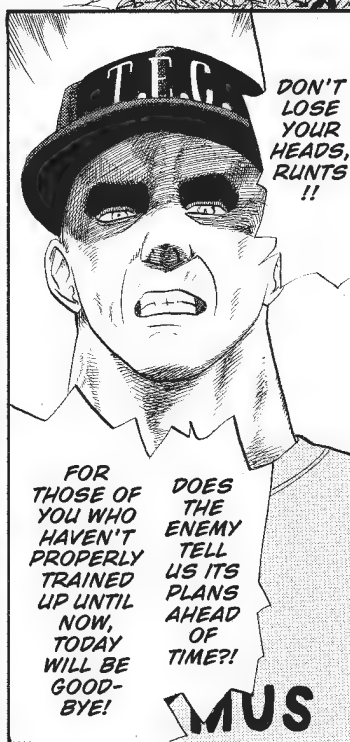
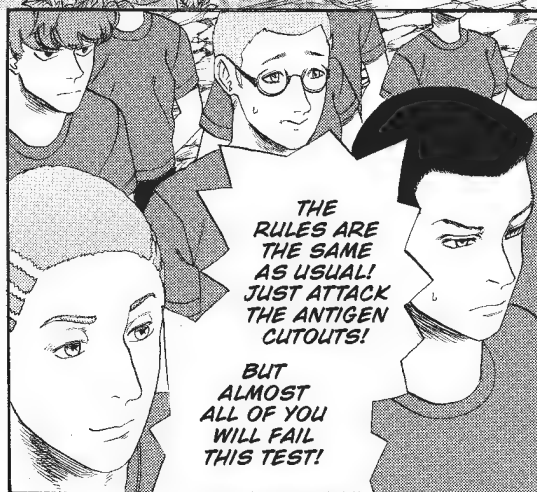
IT'D BE NICE IF THEY MADE THE CUT, DON'T YOU THINK?

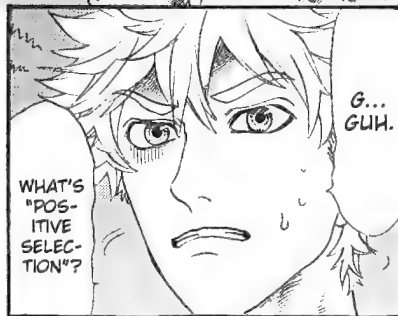
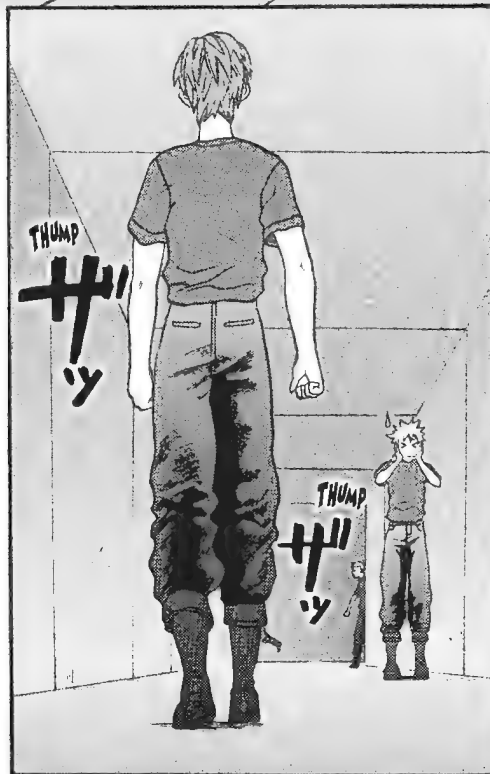
HA HA, NOW IF THEY FOUGHT HERE, THAT WOULD REALLY BE FUN.


IF YOU SAY SO.

WE'RE
DOING A
SURPRISE
TEST
TODAY!!

ど MORMUR よ








YOU'LL NOW
TAKE THE
POSITIVE
SELECTION
TEST!!

Positive and Negative Selection

The thymus preserves useful T cells by "positive selection," and removes harmful T cells that attack the body by "negative selection." This process selects lymphocytes that are able to accurately discern cells of the body and foreign ones such as pathogens. It is said that only a few percent become T cells in the end.



YOU HAVE
A HABIT OF
CLOSING
YOUR EYES
WHEN
ATTACKING.

YOU'LL NEVER
HIT ANYTHING
THAT WAY. WHEN
ATTACKING YOUR
TARGETS, KEEP
YOUR EYES OPEN
UNTIL THE
VERY END!

HUH?



WHAT
WAS
THAT?

WH-

GOOD
LUCK!

JUST LIKE
ALWAYS...
I'M READY!

ATTACK
THE ANTIGEN
CUTOUTS...
AND LEAVE
THE ORDINARY
CELL CUTOUTS
ALONE!

THAT
HEAD
....!!

GLANCE

OH!

ANTI-
GEN
SIGHT-
ED!!

YEAH!
NOW I
PASS—

WHACK

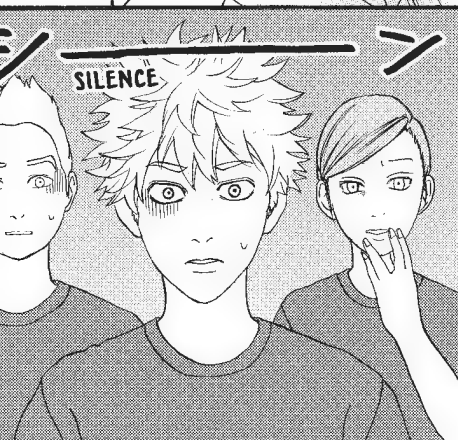


WHAT?
?!

CELL

TH-
THIS
IS...

THAT'S
DIFFERENT
FROM THE
OTHER
TESSSTS



SILENCE



YER
OUT!!

THAT
CUTOUT IS
AN ORDINARY
CELL
HOLDING A
LARGE STONE
FOR PICKLING
VEGETABLES!





SNAP

YOU HAVE
A HABIT OF
CLOSING YOUR
EYES WHEN
ATTACKING.

THERE!!

AH!

チッ

KEEP
YOUR EYES
OPEN!!

THIS
ONE'S AN
ORDINARY
CELL
HOLDING
UP A PIN-
CUSHION
....!!

A SEWING
KIT?!

HAIT

CELL

9

TH-THAT
WAS
CLOSE!!

AH!

HUH?!

SHEESH...
MAKING
ME
NERVOUS
...

USE THE
IN VIVO
ULTIMATE
SECRET
TECHNIQUE!
ANTIGEN
SUPER
PUMMELING
SMASH-
INTO-
PIECES
FIST!!!



YOU
PASS!

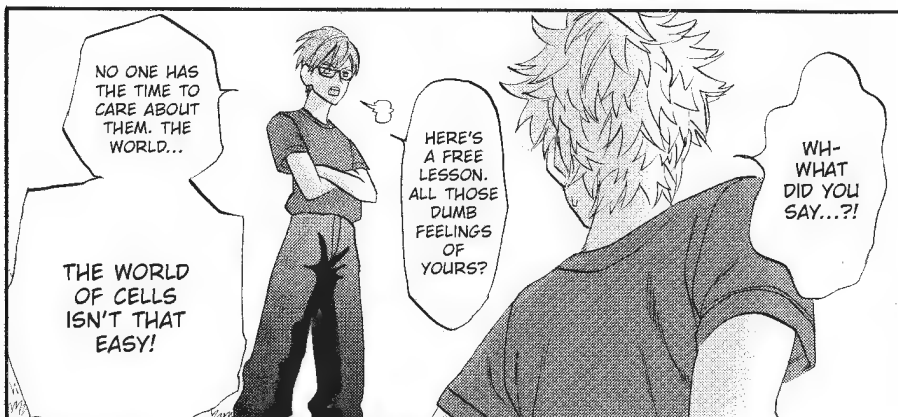
CRACK

WHAM

HOW
DO
YOU
KNOW
THAT
MOVE
!?!

HWH?

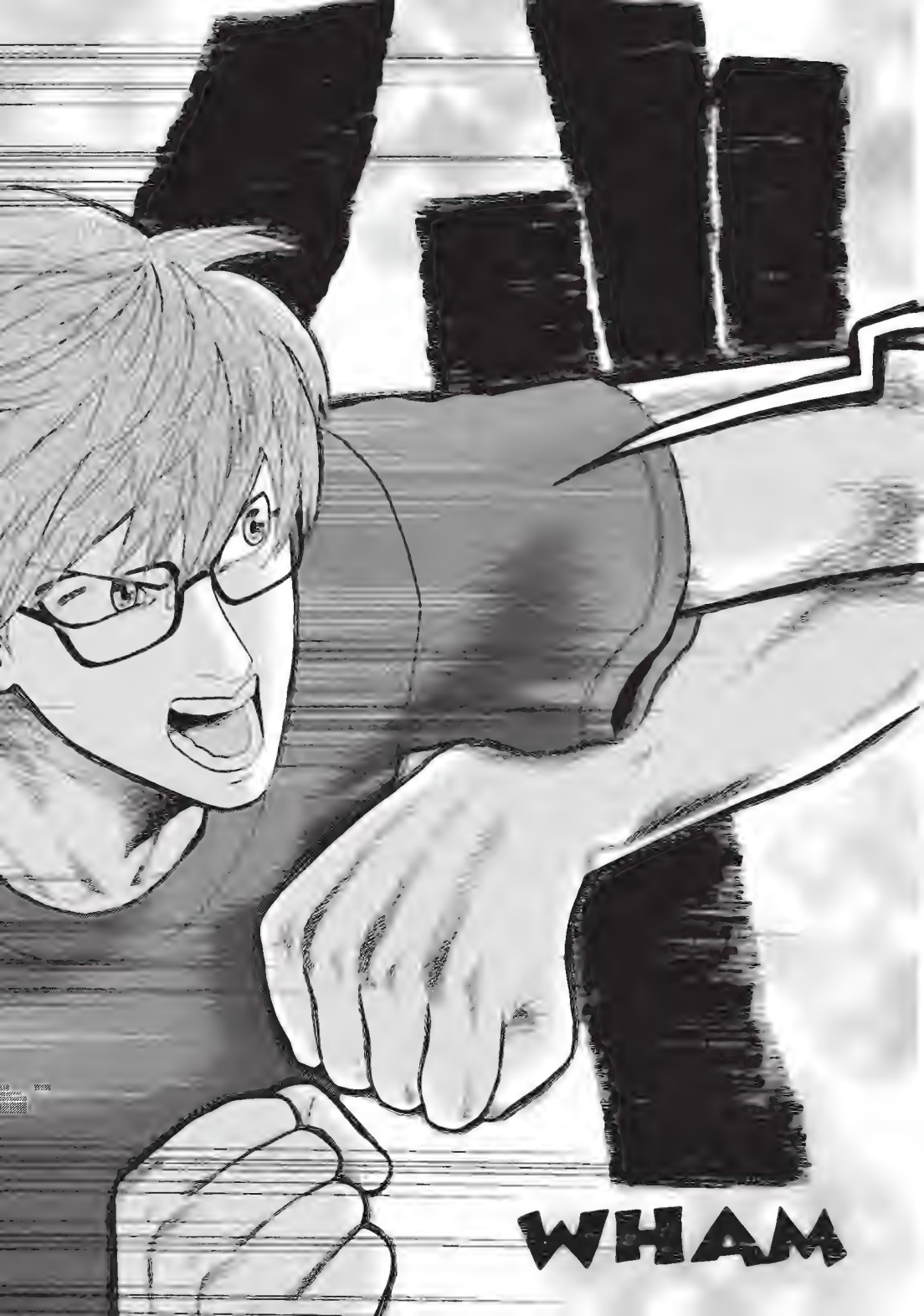




**YOU
IDIOT
!!!**

...FE—





WHAM

NOW IT'S
TIME TO
HARDEN
YOUR
RESOLVE.



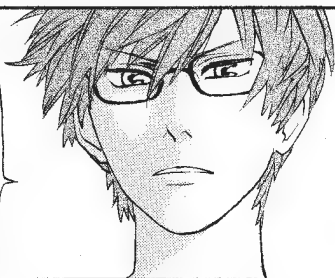
HUH
...?

YOU FACED
YOUR OWN
WEAKNESS.



YOU'VE
GOT NO
CHOICE
NOW BUT
TO GIVE
IT YOUR
BEST.

WAKE
UP.



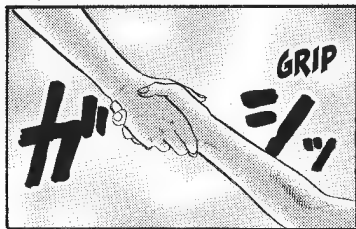
Y-

YOU
...!

REACH



EVEN IF
YOUR EFFORTS
LOOK USELESS
TO OTHERS...
YOU KEEP AT
IT ON YOUR
OWN.



THAT'S
YOUR
STRENGTH,
ISN'T IT?



GOOD.

OKAY!
I'M DONE
WHINING.



HEH...
SOUNDS
GOOD.

THE
WORLD NEEDS
SOMEONE TO
GIVE ORDERS
TO CLUMSY
GUYS LIKE
YOU.

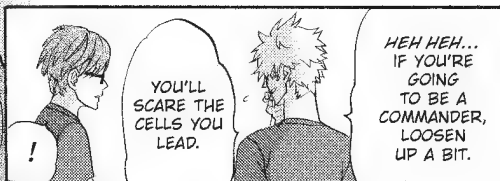
AS FOR
ME...I
KNOW NOW
WHAT I'M
SUPPOSED
TO DO.



**I'M...GOING
TO BECOME
STRONGER!**

I'LL LIFT
WEIGHTS LIKE
CRAZY...I'M
GONNA DO
WHATEVER
I CAN!

I'M
GOING TO
WORK OUT
UNTIL I CAN
BEAT ANY
ENEMY WITH
ONE HIT!



!

YOU'LL
SCARE THE
CELLS YOU
LEAD.

HEH HEH...
IF YOU'RE
GOING
TO BE A
COMMANDER,
LOOSEN
UP A BIT.



YOU
WANT ME TO
LOOSEN UP?
JUST WAIT
AND SEE...

HMPH...
I DON'T
NEED YOU TO
TELL ME THE
OBVIOUS!



THOSE
GUYS
ARE SO
SILLY...



SO THAT'S
WHAT
HAPPENED.☆



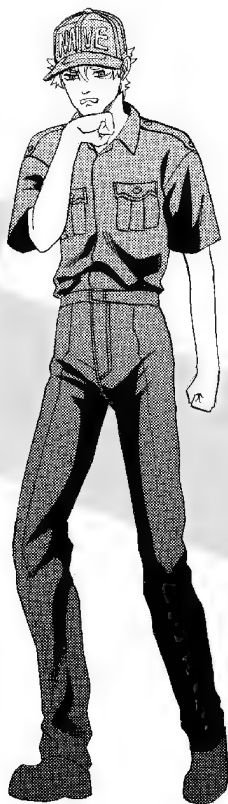




Life of a Killer T Cell



Killer T Cell



Naive T Cell



Thymocyte

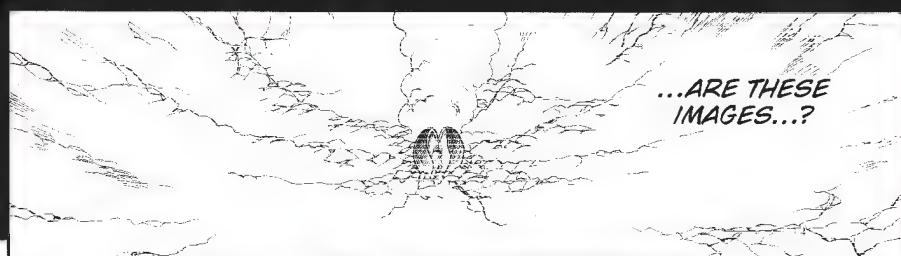
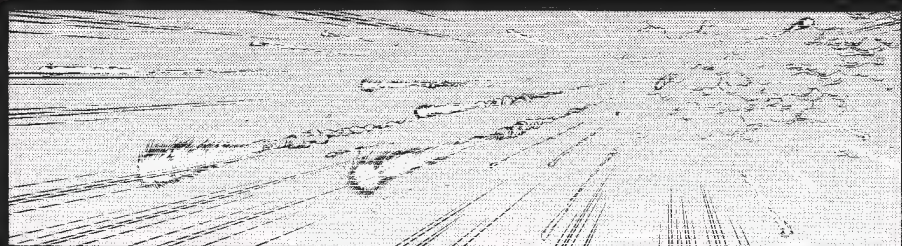


T Cell Precursor



WHAT
HAPPENED
IN HERE?!

Cells at
Work!
はたらく細胞





W H A A A A U G H ! ? !

Memory Cell

A lymphocyte that remembers the immune responses to antigens. They are prepared against invasion by the same bacteria or viruses.

CHAPTER 13: ACQUIRED IMMUNITY

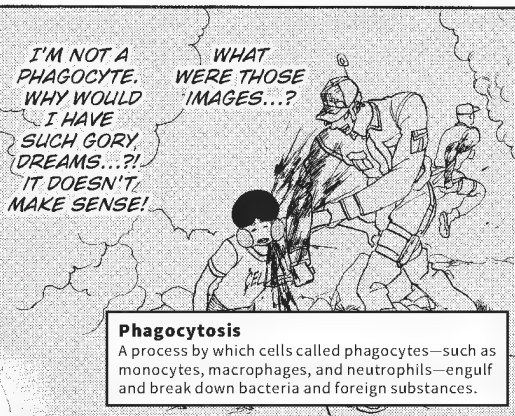
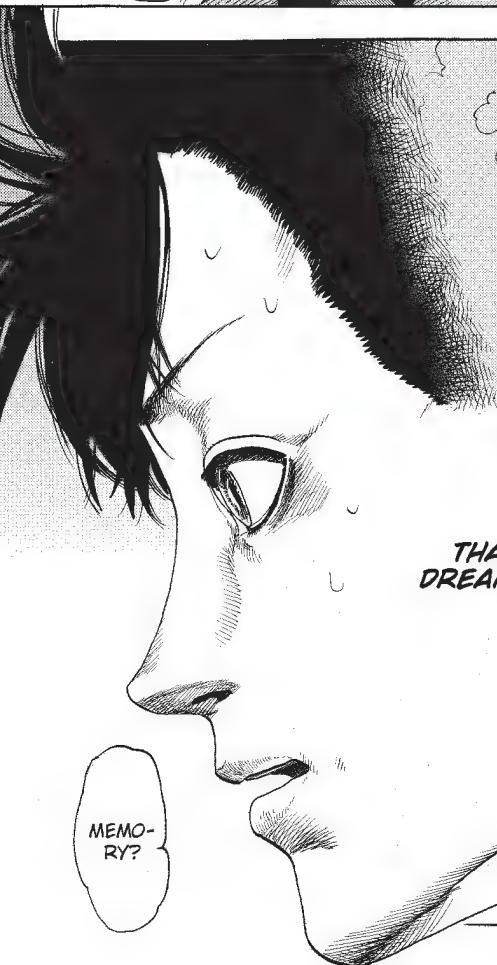


HAH!

HAHA
HAHA
HAHA...
HAHA HAHA
HAHA HAHA
HAHA HAHA
HAHA...

B Cell (Antibody-producing Cell)

A type of lymphocyte that makes weapons called antibodies to fight antigens such as bacteria and viruses.



THAT DREAM...

IF THAT'S THE CASE... DID I SEE THE FUTURE OF THIS BODY?! THEN... THAT MEANS...

DID I SEE A MOMENT FROM THE END OF THE WORLD?!

THAT DEFINITELY WASN'T AN ORDINARY DREAM...

MEMO-
RY?

NOW I'VE
ACQUIRED
THE
ABILITY TO
SEE THE
FUTURE,
TOO...!!

NOT
ONLY DO I
REMEMBER
THE PAST
BATTLES
AGAINST
ANTIGENS...

MEMO-
RY!



WE'VE JUST
DETECTED
A VIRAL
INFECTION IN
A PAROTID
GLAND.

ボ
D
P
ING

IMMUNE
CELLS IN
THE AREA,
PLEASE
HEAD TO
THE SITE
RIGHT
AWAY.

I DON'T
KNOW
WHAT KIND
OF VIRUS
IT IS, BUT
LET'S GET
OUT OF
HERE!

SEE? IT'S
THAT ONE
IN THE
SHADOW
THERE.

SO
FUNNY
LOOK-
ING.

WHAT
IS THAT
THING?

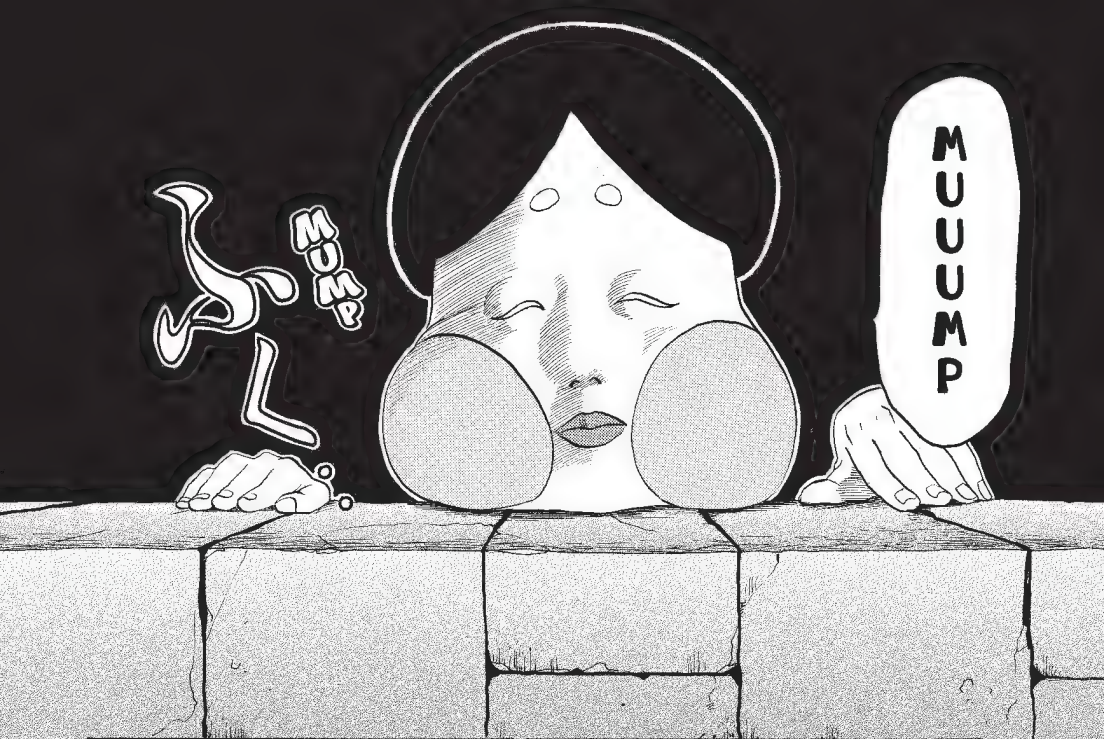
R-
RIGHT...

C'MON,
LET'S GO!
IF IT'S AN
ANTIGEN
WE KNOW,
WE
CAN BEAT
IT WITH
ANTI-
BODIES.

TIME TO
WORK!!

Antibodies

Antibodies are made up of proteins called immunoglobulins (Ig). They bind to antigens in foreign substances so that immune cells can eradicate them.





WHACK

EEK ...



THERE'S A TON OF THEM ALL OF A SUDDEN!!

TH-THIS ISN'T FUNNY!

ふく

MUMP

SLASH

ANTIGEN SIGHTED!



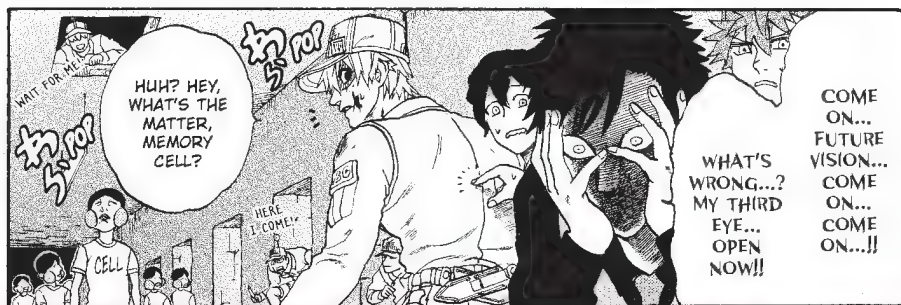
OH, HEYA, NEUTROPHIL.

HEY, IT'S BEEN A WHILE—

B CELL, MEMORY CELL.

White Blood Cell (Neutrophil)

His main job is to destroy foreign substances that enter the body from the outside, such as bacteria and viruses. Neutrophils make up more than half of the white blood cells in the blood.









THEN
THAT
MEANS
THIS
BODY
WILL
—!!!

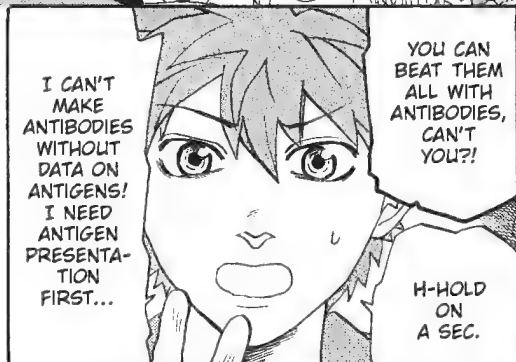
THIS
CONFIRMS
THAT MY
FUTURE
VISION IS
REAL...!!

MAYBE IT'S
A LITTLE
DIFFERENT
FROM WHAT
I SAW...
STILL...

FIGHTING
BETWEEN
CELLS
BROKE
OUT, JUST
LIKE IN MY
VISIONS...

OH
NO...

AAA AUGH



I CAN'T
MAKE
ANTIBODIES
WITHOUT
DATA ON
ANTIGENS!
I NEED
ANTIGEN
PRESENTA-
TION
FIRST...

YOU CAN
BEAT THEM
ALL WITH
ANTIBODIES,
CAN'T
YOU?!

H-HOLD
ON A
SEC.



THEN
BEAT
THEM
WITHOUT
ANTI-
BODIES!!

BUT
I CAN'T
PHAGO-
CYTOS...I
SPECIALIZE
ON ATTACKS
USING ANTI-
BODIES...

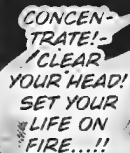
WELL...
I AM A
KIND OF
WHITE
BLOOD
CELL—



OH, B
CELL,
YOU'RE
HERE!

USE
YOUR
ANTI-
BODIES
AND SAVE
US! THIS
VIRUS
IS BAD
NEWS!

HUH?!



WH-
WHAT'D
YOU CALL
ME?!



AND
SOMETHING...
SOMETHING
FALLING FROM
THE SKY...?

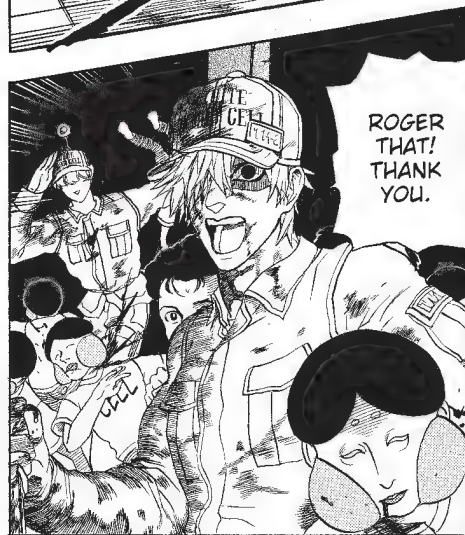
A WAR...

AN ODD VIRUS...

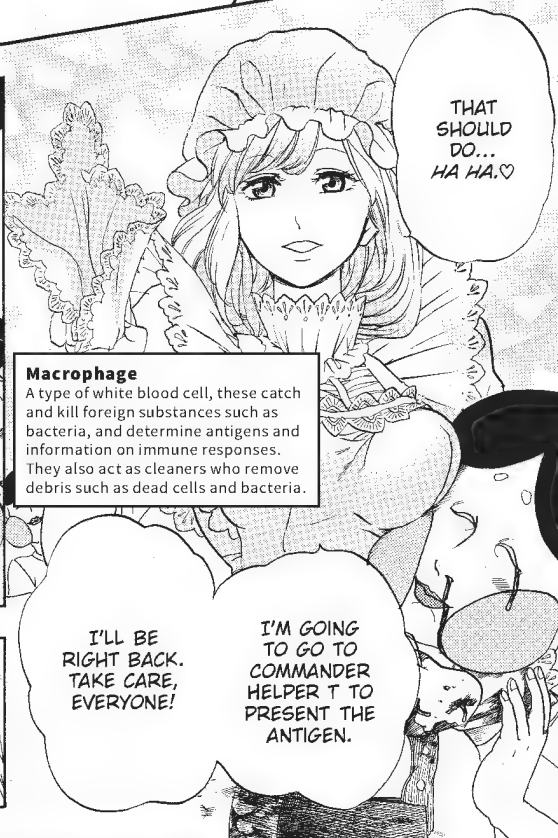


GUH...
I CAN'T FIGURE
IT OUT AT ALL!!
COME ON,
MIRACULOUS
FUTURE VISION
POWER!!!

HEY,
WHAT
ARE YOU
DOING,
MEMORY
CELL?!



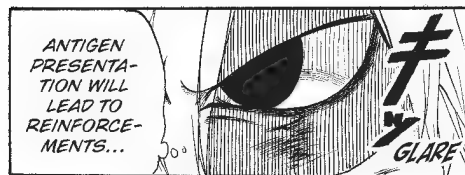
ROGER
THAT!
THANK
YOU.



THAT
SHOULD
DO...
HA HA.♡

Macrophage

A type of white blood cell, these catch and kill foreign substances such as bacteria, and determine antigens and information on immune responses. They also act as cleaners who remove debris such as dead cells and bacteria.



ANTIGEN
PRESENTATION
WILL
LEAD TO
REINFORCE-
MENTS...

GLARE



BUT CAN
WE HOLD
OUT THAT
LONG...?!

DAMN
...!





A
MEMORY
CELL?!

AREN'T
YOU...

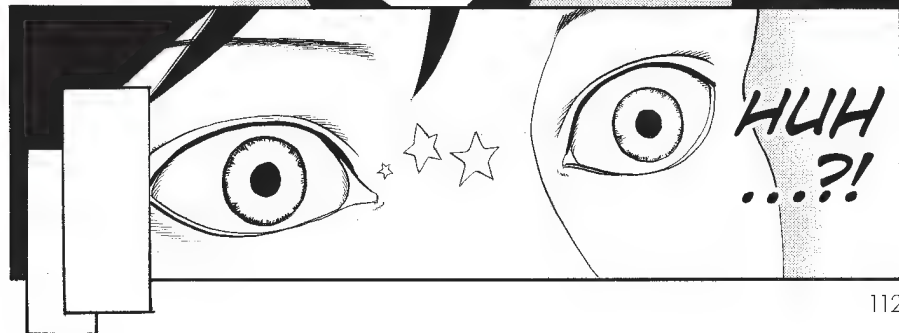


THE
FUTURE
...?!
THIS
IS AN
EMER-
GENCY
...!!



...AND
REMEM-
BER THE
PAST!!!

FORGET
THE
FUTURE...



HUH
...?!

IT
HAPPENED
SO
SUDDENLY...

YES...

...CAME
A GIANT
PIPE...

OUT OF
THE DISTANT
SKY FAR
OUT OF
ANYONE'S
REACH...

ゴオオオオオオオ
ROOO AR RRR

WHA?!
WHAT IS THAT?!

WHAT IS
THAT?!



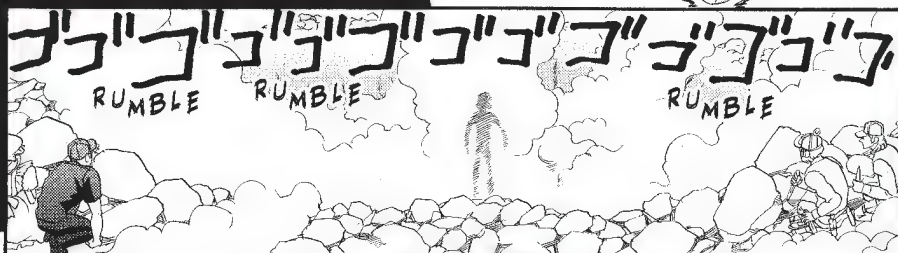


HEY...
THERE'S
SOME-
THING...

...COMING
OUT OF THAT
CAPSULE...!!



OUT OF
THE PIPE
FLEW
COUNTLESS
SPHERES
SEALED BY
POWERS
FROM
ANOTHER
WORLD...



SWAY
ひょろろ

MUMP...
MUMP
MUMP

WOBBLE

よろ



M...
...

WOBBLE

よろ



WHAT'RE
THESE?!
THEY'RE
WEAK!

YEAH,
REALLY
WEAK!

STAB
!!
SUPER
WEAK!

PHEW...
THEY WERE
REALLY
WEAK.

WELL...
I GUESS
WE SHOULD
FOLLOW
PROTOCOL....

GOT
IT.

SO
THERE
YOU
HAVE
IT...

...AND
PRESENT THE
ANTIGEN AND
PRESERVE
THE DATA ON
THE SAMPLE.

WHO
KNOWS?

WHAT THE
HECK WAS
THAT?



**SURE,
OKAY!**

PLEASE
RECORD THE
INFORMATION
ON THIS
ANTIGEN...

...MEMORY
CELL!



**IT...IT
WASN'T
FUTURE
VISION
AT
ALL....!!**

**BUT
WHAT
I SAW
IN THE
PAST!!**

**RE
ME
MB
ER!!**





LOOM

HAAH...
HAAH...

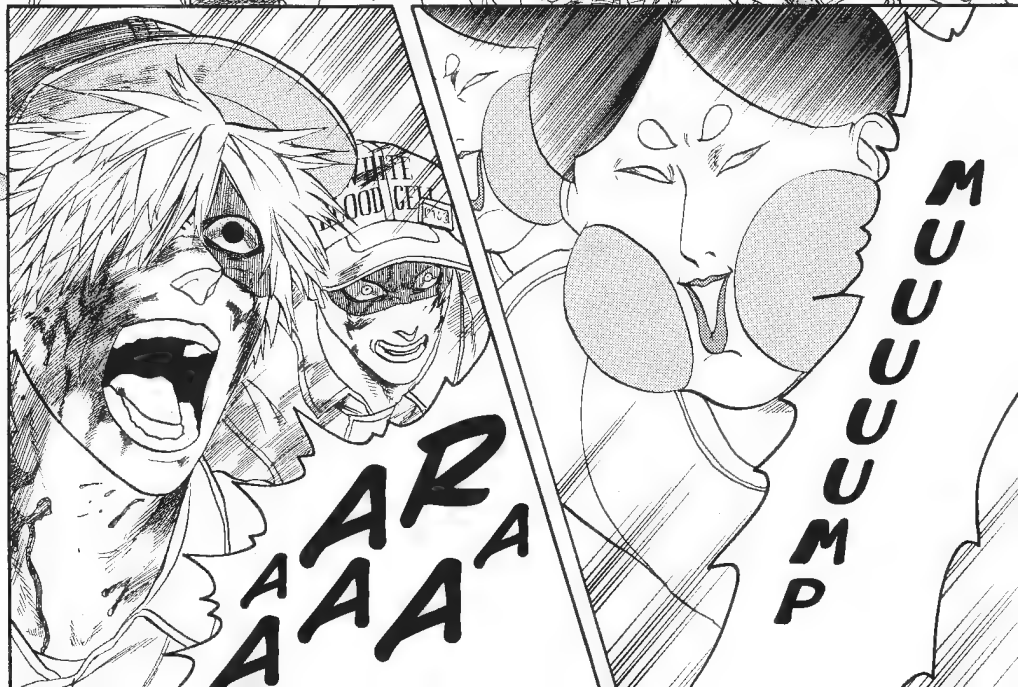
H-HERE
THEY
COME!

LOOM

THEY'RE
GOING TO
FALL ON
US ALL AT
ONCE!!

LOOM

LOOM



AAA
AAA
AAA

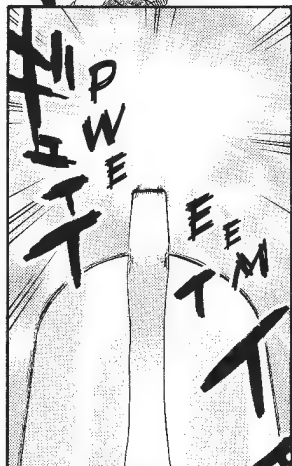
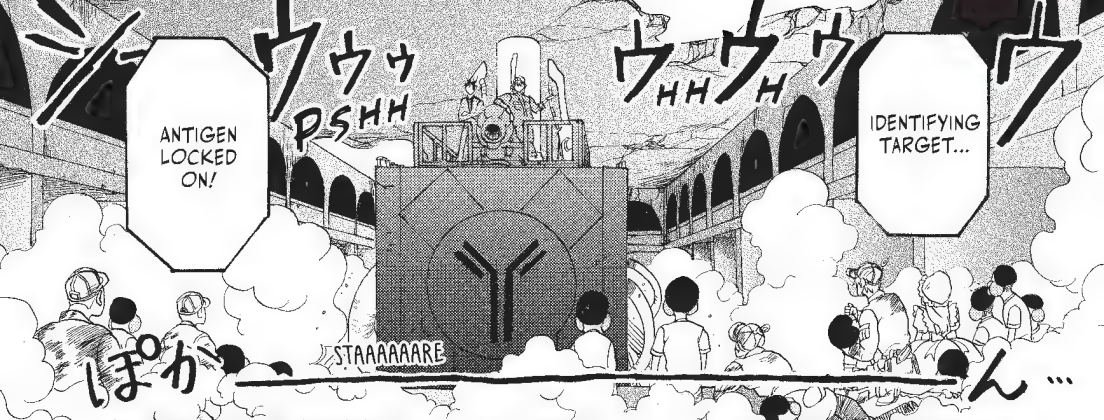
M
U
U
U
U
U
U
P



GAS HINK

**SORRY TO
KEEP YOU
WAITING!**







...OF
ACQUIRED
IMMUNITY
!!!

BOOM

BOOM

BOOM

Acquired Immunity
Immunity that is acquired
after birth by infection
or vaccination.



COUNT ON YOUR 6 CELLS

COUNT ON YOUR

MUMP

BOOM



THE
ANTIGENS
WERE
WIPED OUT
WITHOUT A
TRACE.

WITHOUT
EVEN PRE-
SENTING
ANTIGENS!

AWESOME!
ONE HIT!

THANKS
TO THE
POWER
OF ANTI-
BODIES...



HEH
HEH...
YOU CAN
THANK MY
MEMORY
...

HEH
HEH
HEH...

...WITHOUT
ANTIGEN
PRESENTA-
TION.

...FOR
HELPING
TO MAKE
ANTI-
BODIES...

ANTI-
BODIES
ROCK!!

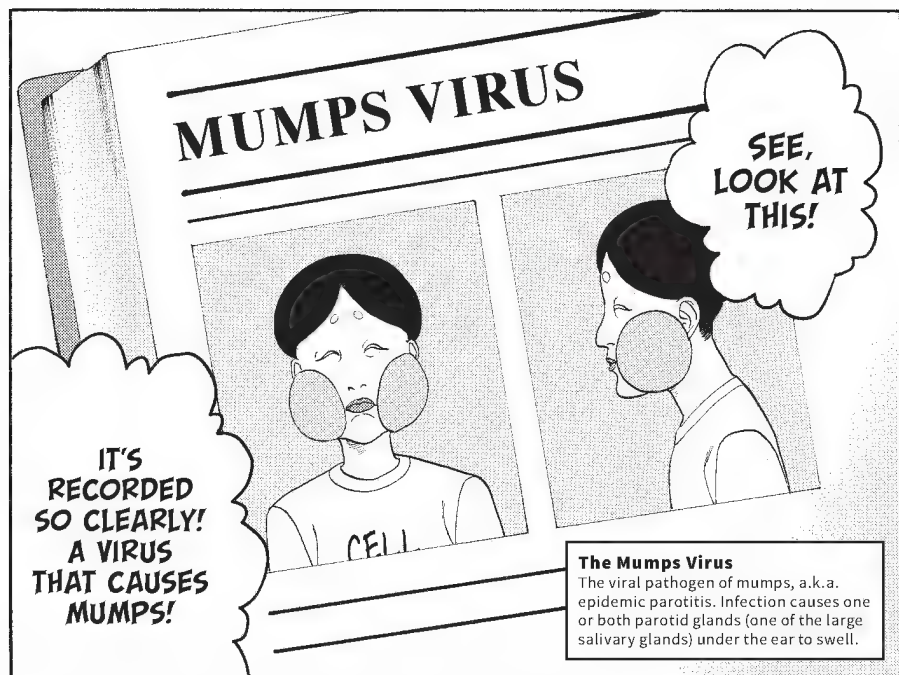
YEAH,
B
CELL!!

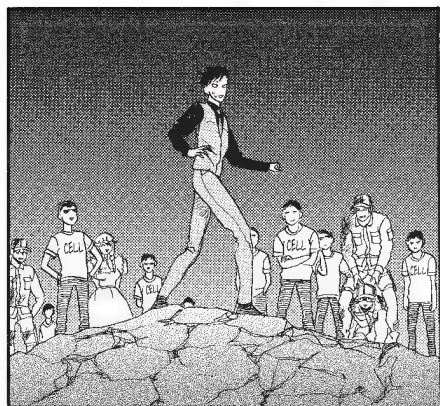


W-WAIT,
DON'T
SAY IT—

ALL OF THIS
HAPPENED
BECAUSE—

WHAT'RE
YOU
TALKING
ABOUT?!





P-PLEASE
FORGET
THIS EVER
HAPPENED!

IT'S
YOUR JOB TO
REMEMBER
THIS STUFF!!



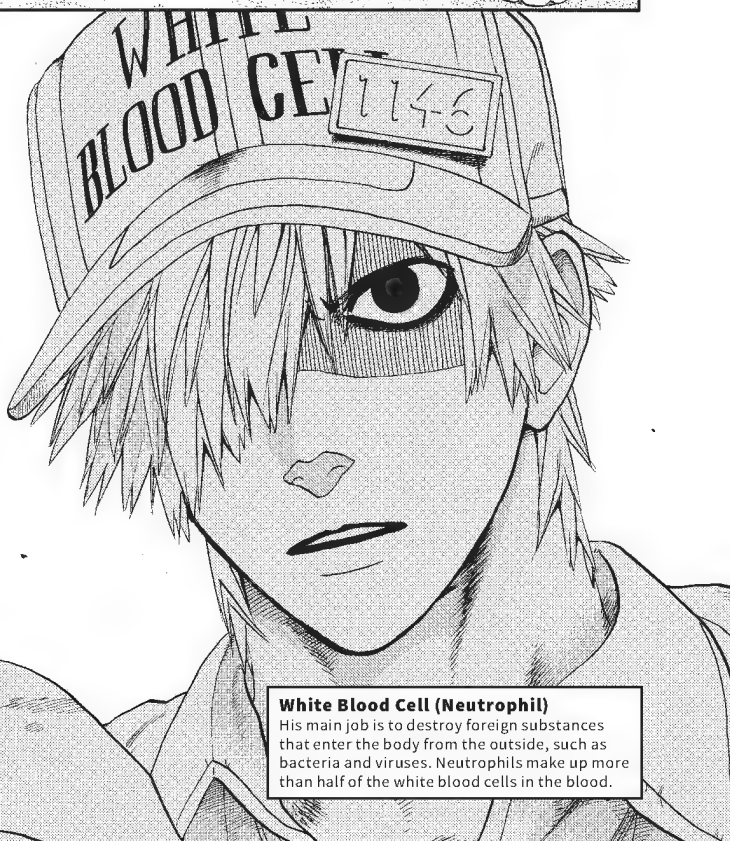
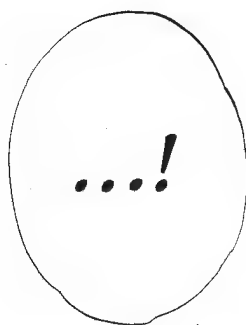
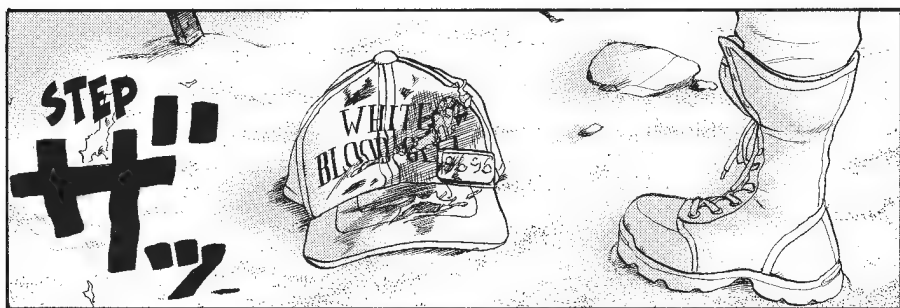
...
I'M TIRED
NOW...

OH...?
SHOULD I
NOT HAVE
SAID ANY-
THING?

CHAPTER 13: END



Cells at
Work!
はたらく細胞



White Blood Cell (Neutrophil)

His main job is to destroy foreign substances that enter the body from the outside, such as bacteria and viruses. Neutrophils make up more than half of the white blood cells in the blood.

CHAPTER 14: PIMPLE

Hair Root

The part of the hair under the skin, from which the hair grows.

SO THERE'S TROUBLE AT THIS HAIR ROOT...



HEY,
STOP
SLACKING
OFF!!

HUH?

THIS IS NO
ORDINARY
AMOUNT OF
INFLAMMA-
TION...

WHAT IN
THE WORLD
IS GOING ON
HERE...?

WHITE
BLOOD CELL
1143

WHOOSH



ばっ
FWP

STOP!!

STEEP

HERE
COMES THE
HUNDRED-
LASH—

DON'T
HURT THE
ELDER!!

D-DON'T,
CHILD...!

Hair Matrix Cell
Creates hair through
cell division.

GRAB

ガ
シッ

KEH HEH HEH.
SUCH POINTLESS
RESISTANCE IS—

SLASH

WHITE
BLOOD

DIE,
YOU
GERM
SCUM!

GAAAAH



I'M A WHITE
BLOOD CELL
WITH THE
NEUTROPHIL
DIVISION.

CAN YOU
TELL ME
WHO YOU
ARE?



WHAT
HAPPENED
HERE?

I'M A
SABA-
CEOUS
GLAND
CELL.

I'M
A ME-
LANO-
CYTE.

WE'RE CELLS
WORKING IN
THIS PORE.

BUT ONE
DAY, WE
WERE INVAD-
ED BY THE ACNE
BACTERIA
AND TAKEN
OVER...

Sebaceous Gland Cell
Produces sebum.

LIKE
MAKING
SEBUM AND
SKIN
PIGMENTA-
TION.

BEFORE,
WE EACH
DID OUR
JOBS...

THIS IS NOT
A NORMAL
PORE ANY
MORE, BUT A
PIMPLE!

Pimple

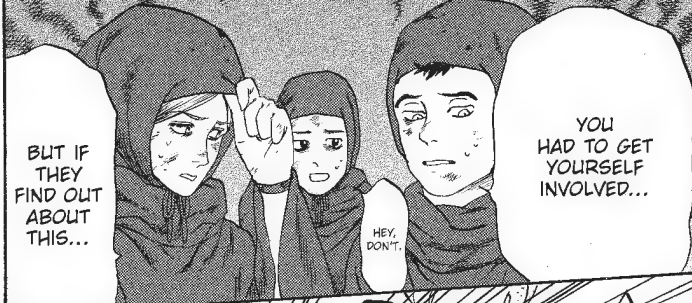
An inflammatory disorder of the skin. The inflammation is caused by sebum clogging the pore. Common where sebum production is high. Often accompanied by pus and pain.

Melanocyte
Makes skin pigments
called melanin.



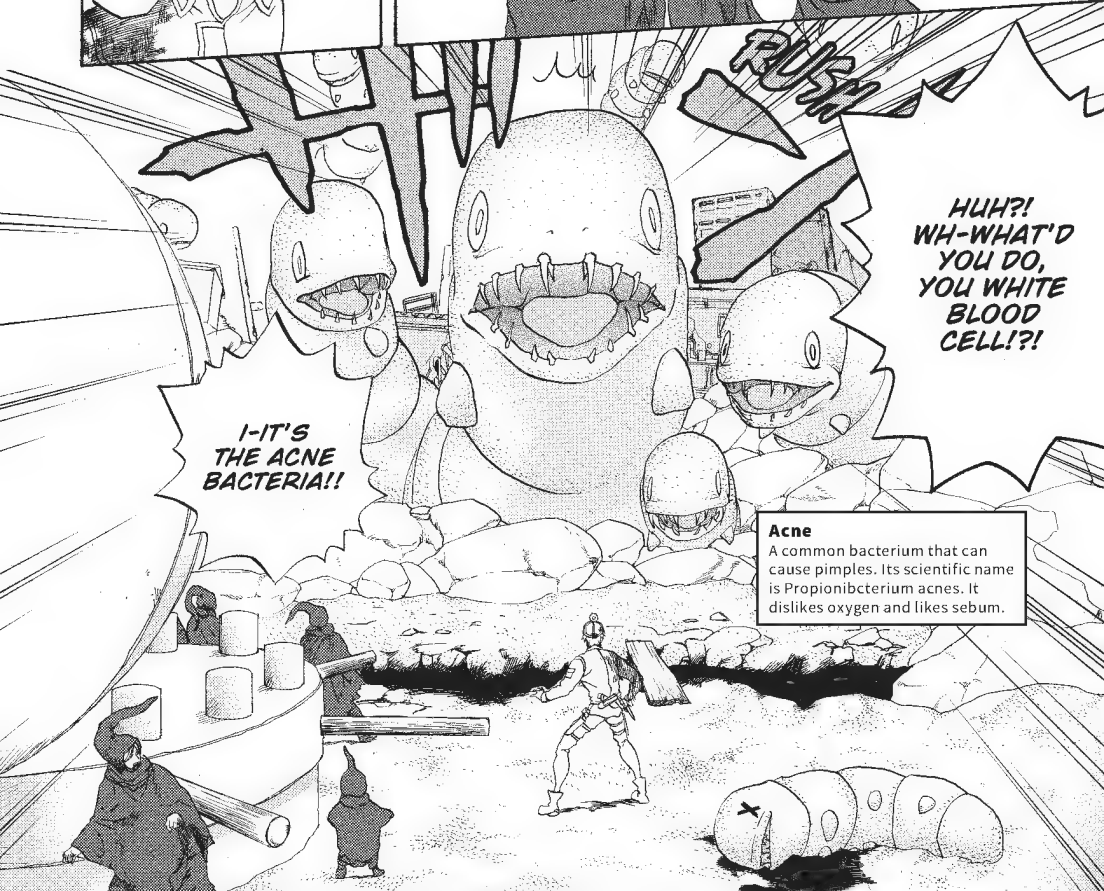
WHAT'S THIS?
WHAT'S THAT
RUCKUS !?!

BUT IF
THEY FIND OUT
ABOUT THIS...



YOU
HAD TO GET
YOURSELF
INVOLVED...

HEY,
DON'T.



HUH?!
WH-WHAT'D
YOU DO,
YOU WHITE
BLOOD
CELL?!?

I-IT'S
THE ACNE
BACTERIA!!

Acne

A common bacterium that can cause pimples. Its scientific name is *Propionibacterium acnes*. It dislikes oxygen and likes sebum.



ACNE?!

THERE'S
SO MANY
OF THEM!





OH, ARE
YOU
AWAKE?!

I'M SORRY
ABOUT WHAT
HAPPENED!
IT'S ALL
BECAUSE OF
ME...

WHERE
ARE
WE?!

NNH...



...WITH
SUCH A
SMALL
THING.

IT ALL
BEGAN
...



NO...YOU
DIDN'T DO
ANYTHING
WRONG.

BUT
WHAT ARE
THOSE
GUYS?



THE PIPES
TO SEND
SEBUM TO THE
EPIDERMIS GOT
CLOGGED WITH
DIRT...

THE ACNE GERMS
CAME FOR THE
SEBUM AND GREW
STRONGER.

BEFORE WE
KNEW IT, THEY
TOOK OVER THE
WHOLE PORE
AND TURNED
US INTO
SLAVES...!!

...THEN THE
WHOLE PORE
BECAME
FULL OF
SEBUM.





Pus
An opaque slime that suppurates from inflamed tissue. It is made up of a serum made of white blood cells (mostly neutrophils), as well as broken-down tissue and dead bacteria.

BUT...
LOOK AT
THEM
NOW...

THEY WERE
ALL BRAVE
WARRIORS
LIKE YOU,
MISTER.

PLEASE
UNDERSTAND,
CHILD.

THE BEST
THING IS FOR
US TO MEET
OUR END
QUIETLY.

WE
CANNOT ALLOW
ANY MORE
SACRIFICES TO
BE MADE FOR
THE SAKE OF
ONE PORE.

BUT TO
THE REST
OF THE BODY,
IT'S BUT A
SINGLE PORE.

THIS HAIR
ROOT IS OUR
HOME, AND
THE PLACE
WHERE WE
WORK.

I
SEE...

WE'D
WORKED SO
HARD!

HIC!
SOB

ウ
OW
RUSTLE



SNIFF
SNIFF

IF I ONLY...
IF I ONLY HAD
THE COURAGE
OF WHITE
BLOOD CELLS
LIKE YOU...

HUH
...?

WHITE
BLOOD CELL

9696

GETTING RID
OF WASTE...
REGULATING
THE BODY
TEMPERA-
TURE...

Pore

Small openings on the surface of the skin from which hairs grow. It also outputs sebum, sweat and waste, playing an important role in thermoregulation and moisture retention.

NO MATTER
HOW SMALL
THE IMPACT...

REQUEST-
ING RE-
INFORCE-
MENT
FROM
ANYONE
IN THE
AREA.

THIS
IS NO.
1146.

I FOUND
A NEST OF
ACNE BACTERIA
AT THE PORE
IN QUESTION.

YOU
GOT IT.
I'LL BE A
BIT LATE.

HUH...?!
B-BUT--

WHITE
BLOOD CELL

1146

...IF THERE'S
A GERM
INFESTATION
IN THIS BODY,
I WON'T
STAND BY AND
WATCH.

MY JOB--
OUR JOB--
IS TO NOT
LET THAT
HAPPEN.

WHITE
BLOOD CELL

MIS-
TER...

**YOU'LL
BECOME
A PART
OF THE
PUS!!**

**I, THE
ACNE KING,
WILL ADD
YOU TO MY
COLLECTION
OF WHITE
BLOOD CELL
CORPSES!**

LUNGE

A

**YOU'LL
BECOME
A PART
OF THE
PUS!!**

**I, THE
ACNE KING,
WILL ADD
YOU TO MY
COLLECTION
OF WHITE
BLOOD CELL
CORPSES!**

LUNGE

A

**YOU'LL
BECOME
A PART
OF THE
PUS!!**

**I, THE
ACNE KING,
WILL ADD
YOU TO MY
COLLECTION
OF WHITE
BLOOD CELL
CORPSES!**

LUNGE

A

WHITE BLOOD CELL

774-6

DASH!

RAAAH

DON'T FALL!

LOOK OUT!

I'LL KILL YOU FIRST !!

141

WHITE BLOOD CELL

774-6

DASH!

RAAAH

DON'T FALL!

LOOK OUT!

I'LL KILL YOU FIRST !!

141

WHITE BLOOD CELL
7746

I'LL KILL YOU FIRST!!

LOOK OUT!

DASH!

RAAAH

DON'T FALL!

141

DIHIE!!

R
A

W
R

YAH!

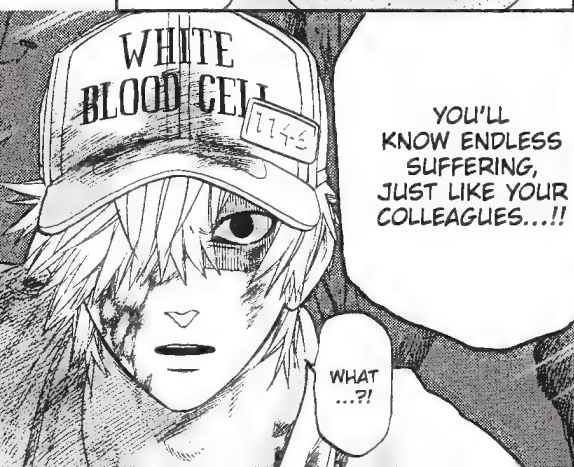
SAB

GRAB

GUH!

I'LL
CRUSH
YOU
AGAINST
THE
WALL....!!

LUNGE





TH-THIS
ISN'T
GOOD.

SLASH
GONGGG

OH
NO!

WHACK

LET US
ACCEPT
OUR
FATE...
WHAT'S
ONE
PORE,
AFTER
ALL...?

THAT ONE
IS ALSO
DESTINED
FOR THE
PUS...

JUST
AS I
THOUGHT...
IT'S NO
USE.

...IS TO
NOT LET
THAT
HAPPEN.

MY JOB—
OUR JOB...

...IF THERE'S
A GERM
INFESTATION
IN THIS BODY,
I WON'T
STAND BY
AND WATCH.

NO MATTER
HOW SMALL
THE IMPACT...

WHITE
BLOOD CELL
9696

GUH
...
ELDER...
ELDER,
YOU...



**YOU'RE
A
FOOL!!**

SLAP

WHA?!



**THAT
WHITE
BLOOD
CELL...
AND ALL
THOSE
WHO DIED...
THEY ALL
FOUGHT
FOR ONE
HAIR!**

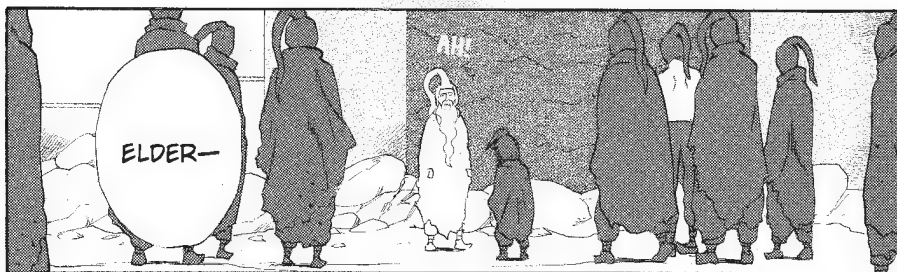
**IT'S
NOT RIGHT
FOR US TO
GIVE UP!!**

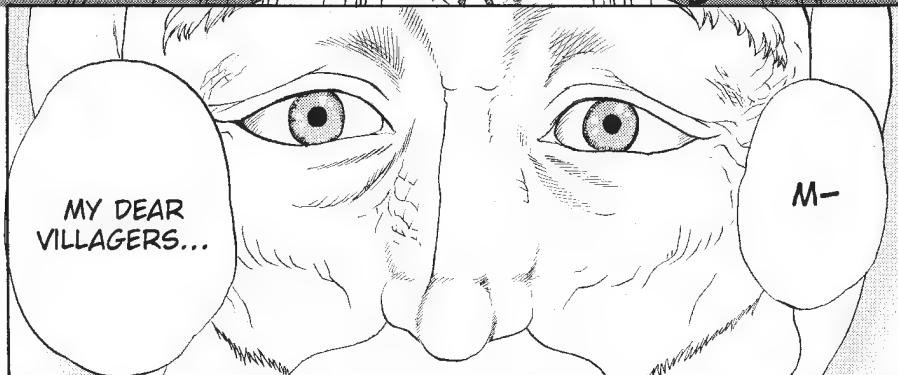
**CH-CHILD?!
HOW COULD
YOU DO
THAT TO THE
ELDER...?**



**THAT
WHITE
BLOOD
CELL SAID
THAT HE'D
FIGHT NO
MATTER
HOW
SMALL THE
IMPACT!
BECAUSE
THAT'S HIS
JOB!**

**EVEN
IF IT'S
JUST ONE
HAIR...
THIS
IS OUR
PRECIOUS
HOME!**

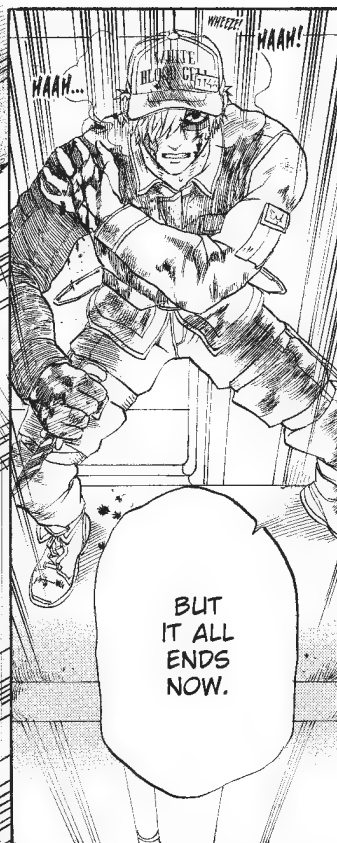


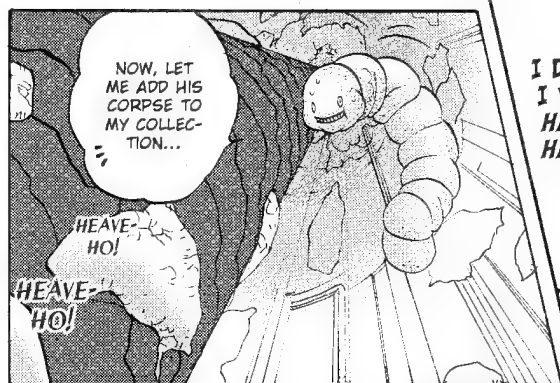


GRAAAAR!!

CRASH

DIIEEE!





HEAVY
HO!

**HEAVE-
HO!**



**BWA
HA
HA!**



ゴキウ

HEAVE HO!

**HEAVE-
HO!**

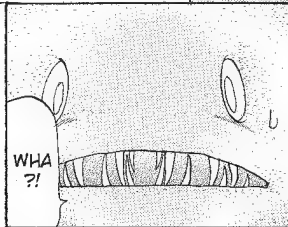


ゴ
ル
ク
ム
ル
B
L
E

WHAT'S
THAT
YELL-
ING...?



HMM?







호
호
WHEEZE

GASP?!

YOU ATE
TOO MUCH
SEBUM,
YOU SLOW
CREEP...!!

の
を
LUNCH

のた
LUNCH

CLARE

TH-THIS IS
NO GOOD!
I'LL DROWN
IN THIS
MUCH
SEBUM.

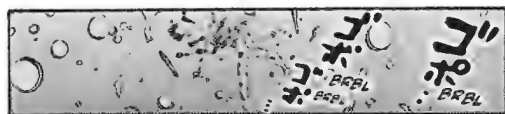
I HAVE
TO GET
OUT OF
HERE...

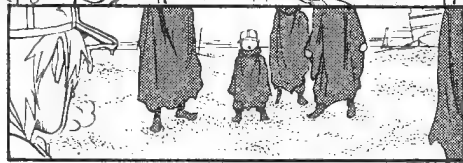
**DIE,
GERM
SCUM
!!!**

GYAAAAAH!

HOAHOA











THAT'S A
NEUTRO-
PHIL...
RIGHT?

CLAMOR
ざわ

CLAMOR

ざわ

HEY...
WHAT
IS
THAT?



...BLOOD
CELL...?
HUH...
WHA...?

WHITE...

AHEM!

KOFF!



WELL...
IT'S A
LONG
STORY
...

DID YOU
HAVE A
CAREER
CHANGE
...?

...OF MY
THANKS! WHITE TAKEN...
BLOOD CELL

CHAPTER 14: END

WHITE BLOOD
CELLS REALLY
ARE 'A BUNCH
OF WEIRDOS.



THOSE WHO
CAN'T LOVE
THEMSELVES
CAN'T LOVE
OTHERS,
YOU KNOW!

YOU SHOULD
REALLY
TAKE BETTER
CARE OF
YOURSELF.

C
COULD
YOU
WASH
HIM
A
LITTLE
MORE
GENTLY
...?

SEBUM
STAINS
ARE
TOUGH TO
GET OUT.

SCRUB

RUB

SCRUB

RUB

SPLASH

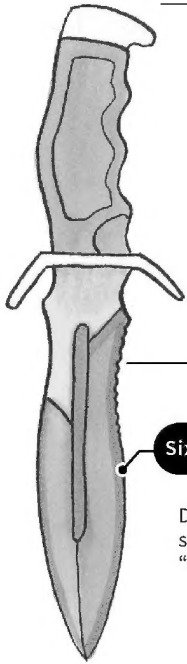
RIGHT,
I'LL
REMEMBER
THAT.

THANKS.

CELLS AT WORK! VOLUME 3: END

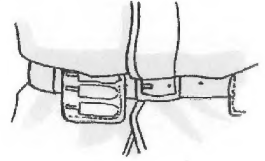
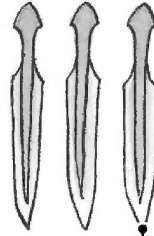
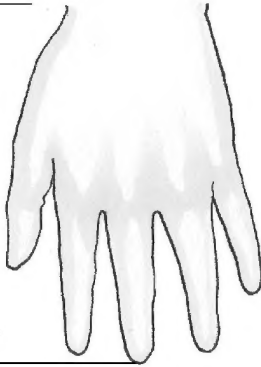
Medical Editor: Tomoyuki Harada

Knives (two types)



Six knives equipped at the legs and hip.

Designed in the style of a Russian "antiterror" knife.



Throwing knives equipped at the belt.

Rarely used. Practice is required so as to not hit allies when they have to be used.

White Blood Cells and Their Friends

From an early age, white blood cells play swords, tag, and hide-and-seek to learn how to both work with their comrades and to battle their enemies.





White Blood Cell (Neutrophil) [schematic illustration]



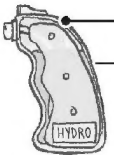
They wear white to represent purity and justice.

WBC (White Blood Cell) badge. Velcro.



Transceiver

Used to communicate with colleagues, the limbic system, and the headquarters of the blood forming organs.



Hydrolyzing Enzyme Spray

Breaks down bacterial corpses and other things.

Receptor

Reacts to bacteria and other enemies. The ones assigned to neutrophils have a clunky design. The range and volume can be adjusted, but it cannot determine direction.

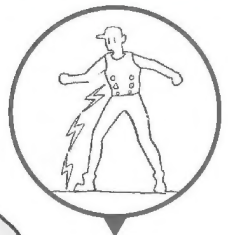
Under their shirts, they wear a receptor and inner wear made of L-selectin.

Water Resistant Plug

The receptor cable is connected here. There are two kinds of circuits; the Fc receptor and another for the C3 receptor.

It zips on the side.

L-Selectin Adhesion Molecule



It responds to the floor (endothelial cells) to tether their bodies to the ground.

There's a switch on the inside of the belt.

Cells at Work! 3

KODANSHA COMICS Digital Edition

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